Drug Markets

November 1929

Established 1914

The Magazine of the Manufacturing Drug Trade

Editorials 435

Wholesale Price Cuts—The Jobber Has Moved—Already Forgotten—Cost of Medicines—Keeping on the Toes—The Benefit of Deflation—Regarding the Tariff.

Feature Articles

Expanding the Mutual Wholesalers 439

Evaluating Quince Seed 444
By G. R. Rinke

Don't Give Your Profits to Your Distributors 447
By Melvin T. Copeland

Inspiration and Aspiration 451

Why Some Crude Drugs Are at Bargain Prices 455

Ergot Pharmacology 457
By Marvin R. Thompson

Toilet Preparations

Aromatic Plants of Milly-en-Gatinais 465
By Y. Trouard-Riolle

Waxes in Salves and Face Creams 471
By Dr. Erwin Koch

Synthetic Aromatics—Phenyl Ethyl Aldehyde 473

Market Facts from Grasse 477
By O. C. Zilisch

Ten Years Ago 438

Industry's Finances 461

Raw Material Market

Fine Chemicals 491

Perfume and Flavoring Materials 506

Crude Drugs 500

Drug Market Place 518

Buyer's Guide 420

Index to Advertisers 520

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Coming Issues

Private Brands of our new wholesale distributive organizations promise real competition to the manufacturers without direct consumer outlets. Many moves have been made to overcome the effects of this competition by courting the aid of the druggist. We believe that these expensive methods are wrong. In coming issues we shall offer what we think is the proper procedure. This procedure will be discussed by the leaders in the manufacturing branch of the drug trade.

As We Are Keeping Pace with the developments in the drug manufacturing trade, we are also keeping pace with developments in publishing. We believe that the drug manufacturing industry should have a magazine that truly represents them as a progressive industry. Consequently, with our January issue, we shall change the type of the heads of our feature articles, and further make Drug Markets more attractive.

VOL. XXV **DRUG MARKETS, INC.** NUMBER 5

PUBLISHERS

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 25 Spruce St., N. Y. City

Editor THOMAS R. FARRELL

President WILLIAMS HAYNES

Business Manager FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, POSTAGE PAID TO ALL COUNTRIES; THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES. PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE, AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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For Bleaching...Sterilizing... Disinfecting...Deodorizing...Oxidizing

A stable hypochlorite product

[1] Contains 65% available chlorine.

[2] Exceptionally stable.

[3] Readily soluble in cold water.

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...and other industrial applications

H T H is produced by an exclusive Mathieson process and should not be confused with any other product on the market which is used for bleaching, sterilizing or oxidizing. It is a concentrated material, stable and uniform. The principal component of H T H is *true* calcium hypochlorite—$Ca<^{O\,Cl}_{O\,Cl}$—which until recently existed merely as a formula. H T H contains little free lime or insoluble matter and produces calcium hypochlorite solutions which may often be used without settling.

Commercially H T H has many valuable uses. It is convenient, easy-to-use, efficient and absolutely dependable. Samples and further information will be furnished on request.

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Buyers' Guide

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American Commercial Alcohol Corp.
Pennsylvania Sugar Co.
The Rossville Com. Alcohol Corp.
U. S. Industrial Alcohol Co.

AROMATIC CHEMICALS
Dodge & Olcott Company
P. R. Dreyer Inc.
Euro American Corporation
Benj. French, Inc.
Fritzsche Brothers, Inc.
Givaudan Delawanna, Inc.
Magnus, Mabee & Reynard
Newport Chemical Works, Inc.
Pfaltz & Bauer, Inc.
Schering Corporation
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

BEESWAX
Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

BIOLOGICAL CHEMICALS
Wilson Laboratories

BORAX
American Potash & Chemical Corp.
Pacific Coast Borax Co.

COLLOIDAL CLAY
E. Fougera & Co.

CHALK, PRECIPITATED
H. J. Baker & Bro.
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.

COD LIVER OIL
H. J. Baker & Bro.
P. R. Dreyer, Inc.
E. M. Javitz & Son
Norwegian Cod Liver Oil Association

COAL-TAR PRODUCTS
Baird & McGuire, Inc.

CRUDE DRUGS
J. L. Hopkins & Co.
McIlvaine Brothers, Inc.
S. B. Penick & Company

DISINFECTANTS
Baird & McGuire, Inc.

ESSENTIAL OILS
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer, Inc.
Euro American Corporation
Benj. French, Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard
Newport Chemical Works, Inc.
Pfaltz & Bauer, Inc.
Plaimar, Ltd.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

FLAVORING MATERIALS
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer, Inc.
Euro American Corporation
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

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GLYCERIN
H. J. Baker & Bro.
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LANOLIN
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Dow Chemical Co.
Heyden Chemical Corp.
Hoffman-LaRoche Chemical Works, Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
Chas. Pfizer & Co., Inc.
Schering Corporation
Wilckes-Martin-Wilckes Co.

MINERAL OIL
M. W. Parsons Imports
Schliemann Companies, Inc.

QUININE
R. W. Greeff & Co.
Mallinckrodt Chemical Works
Merck & Co., Inc.

SHAVING CREAM BASE
John Powell & Co., Inc.

VANILLIN
Euro American Corporation
Givaudan Delawanna Inc.
Mathieson Alkali Works, Inc. (Commonwealth Division)
Monsanto Chemical Works

CONTAINERS

BOTTLES
Carr-Lowrey Glass Co.
Owens-Illinois Glass Co.

BOXES (Corrugated)
Container Corp. of America
Hinde & Dauch Paper Co.

BOXES (Paper)
F. N. Burt Co., Ltd.

CANS
American Can Co.

COLLAPSIBLE TUBES
Aluminum Co. of America
Bond Mfg. Corporation
New England Collapsible Tube Co.
Sun Tube Corp.
White Metal Mfg. Co.
A. H. Wirz, Inc.

CLOSURES

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Armstrong Cork Co.
Cork Import Corporation

INSIDE THREAD CAPS
Spring Stopper Co.

METAL CAPS
Aluminum Co. of America
American Metal Cap Co.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
National Seal Co.
Phoenix Hermetic Co.

VISCOSE CAPS
DuPont Cellophane Co.
Cellulose Cap Division

MACHINERY & EQUIPMENT

FILLING MACHINES
Alsop Engineering Co.
American Machine & Foundry Co.
Arthur Colton Co.
Horix Manufacturing Co.
The Karl Kiefer Machine Co.
F. J. Stokes Machine Co.

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Alsop Engineering Co.
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Mixing Equipment Co.
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LABELLING EQUIPMENT
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PHARMACEUTICAL MACHINERY
Arthur Colton Co.
F. J. Stokes Machine Co.

We move so swiftly...

TODAY is the Age of Speed. We move swiftly.

Merchants are noting this tendency. Even women find so little time to shop. It's a glance here, a glance there. So the appearance of the package must help ring the cash register.

Your own bottle must do battle for attention, aided by label, container, and closure—especially the closure. If your closure is bright and attractive, if it harmonizes with label, container, and contents, then you help the merchant make the sale. It's so much easier when you use Armstrong's Embossed Top Corks. Your closure can have any color or any two colors, embossed with your name, trade-mark, or design to harmonize with the shape of your container.

Keep pace with these hair-trigger days by writing for samples of Armstrong's Embossed Top Corks. A trial will prove how attractive they look, how easy they are to use, what a perfect seal and reseal they offer, how little they cost. Armstrong Cork Company, 913 Arch Street, Lancaster, Pennsylvania.

Armstrong's Embossed Top Corks

Handy as a Door-Knob

"OH, Susannah, don't you cry for me, I'm off to California with my wash bowl on my knee!" And to the rallying cry of this popular ditty thousands of gold-seekers thronged to the new El Dorado. Gold long had been known to exist in California, but the first bewilderingly rich deposit was not discovered until January 24, 1848. News traveled slowly in those days, so the rush to the diggings did not start until 1849. The "Forty-Niners" laid the foundation for the tremendous development of the Pacific Slope.

"See First"

American

Odorless, Colorless, "Everclear" Alcohol

"EVERCLEAR" Alcohol possesses every desired and necessary quality essential to the successful manufacture of drugs in which alcohol is an ingredient. It is absolutely odorless, and always clear.

These two surface indicators of purity, which is the basis of excellence in drugs, are the result of an exclusive distillation process originated by us at our modern plant in the heart of the grain belt.

This fine purity never varies . . . a fact that enables you to safely make it your standard alcohol.

This is number 9 of a series depicting historical periods in the development of America

"SEE AMERICAN FIRST"

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420 Lexington Avenue, New York, N. Y.

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DETROIT, MICH., *H. L. Holland & Son*, 945 First National Bank Bldg.
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GRETNA, LA.....
INDIANAPOLIS, IND., *August Hofman*, Majestic Bldg.
KANSAS CITY, MO., *Thompson Hayward Chemical Co.*, 29th and Southwest Blvd.
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MINNEAPOLIS, MINN., *W. H. Barber Co.*
NASHVILLE, TENN., *Post Brokerage Co.*
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OMAHA, NEBR., *Kohn Bros. Brokerage Co.*, 1122 Harney St.
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SAN FRANCISCO, CALIF., 369 Pine St.
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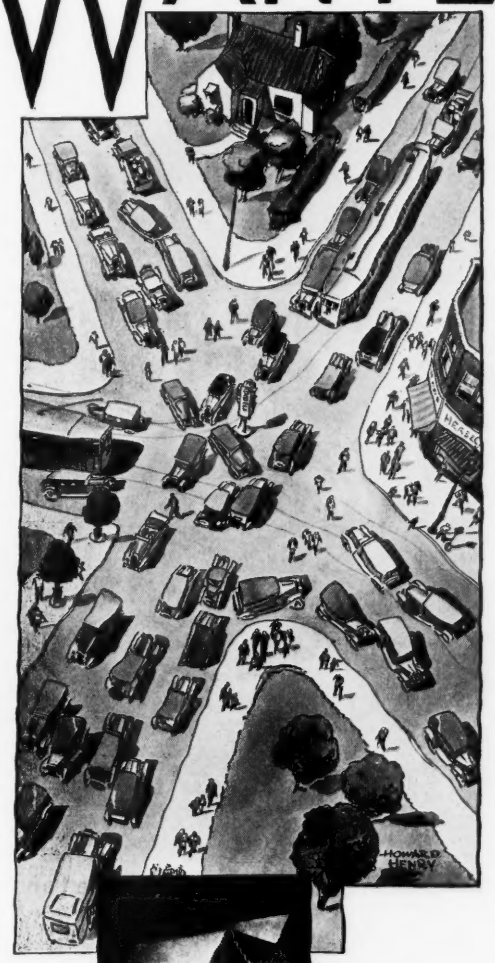
ALCOHOL EVERCLEAR ALCOHOL
REG. U.S. PAT. OFF.

WANTED: Experts only to solve modern traffic problems



IN the leisurely horse and buggy days the only important traffic rule was: "Keep to the right." Today, "Keep Moving!" is paramount. Traffic, with its complexity and congestion, has grown so great that only men specially trained in that field can attempt to solve its difficult problems. Without expert direction hopeless tangles, accidents and business loss are bound to result.

For packaging problems only the PACKAGE ENGINEER

IN the old hammer and nails period the making of a shipping container was a simple matter. A wooden box of the required size and strength answered the purpose. Business was slower, labor and material costs lower, profit margins wider.

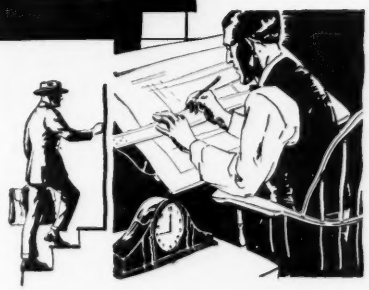
Today, keen competition, increased volume and greater transportation hazards demand a better shipping container at lower cost. Corrugated fibre shipping boxes meet this demand with their greater safety, convenience and economy.

Yet corrugated fibre boxes must be expertly designed to completely meet the individual user's requirements. Shape, shipping costs, packing room labor costs, storage limitations, merchandising requirements, strength, protection, display value—all these factors are considered by H&D Package Engineers.

The staff of 50 has a combined experience of many centuries acquired in the study of thousands of diversified products. They have saved thousands of dollars for other shippers. Their services are at your disposal without charge or obligation.

Mail the coupon for a copy of the latest H&D booklet on scientific packaging in your field.

THE HINDE & DAUCH PAPER COMPANY
213 Decatur Street Sandusky, Ohio



HINDE & DAUCH *corrugated fibre* SHIPPING BOXES

H&D

THE HINDE & DAUCH PAPER CO., 213 Decatur St., Sandusky, Ohio
Please send a copy of "Package Engineering" to

Name .....

Address .....

Town .....

We are interested in packing .....

Down in Baltimore

THE Emerson Drug Company said "good-bye" to their sealing problems long ago when they decided to top off Bromo-Seltzer and their Aperio with the Duplex Seal.

Now, with its adoption for the smallest size Bromo-Seltzer, Duplex becomes "standard equipment" on the entire line of Emerson Drug products.

Down in Baltimore they know that the Duplex Seal builds good-will. It's so convenient—just a quarter turn of the wrist and presto, the bottle is unsealed. Just a quarter turn of the wrist and it's re-sealed to keep the merchandise air-tight. No matter how many times a bottle sealed with a Duplex is opened and then re-sealed, the product keeps its original quality until it's all used up.

Moreover, in shipment no amount of rough treatment makes the Duplex Seal "creep" or work loose. It stays firm always to protect the product it seals. There's no other seal like the Duplex Seal!

The Duplex Seal

A PERFECT SEALING & RE-SEALING CAP FOR GLASS BOTTLES, JARS & TIN CONTAINERS

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Executive Offices and Works: 14th Avenue and 37th Street, Brooklyn, N. Y.
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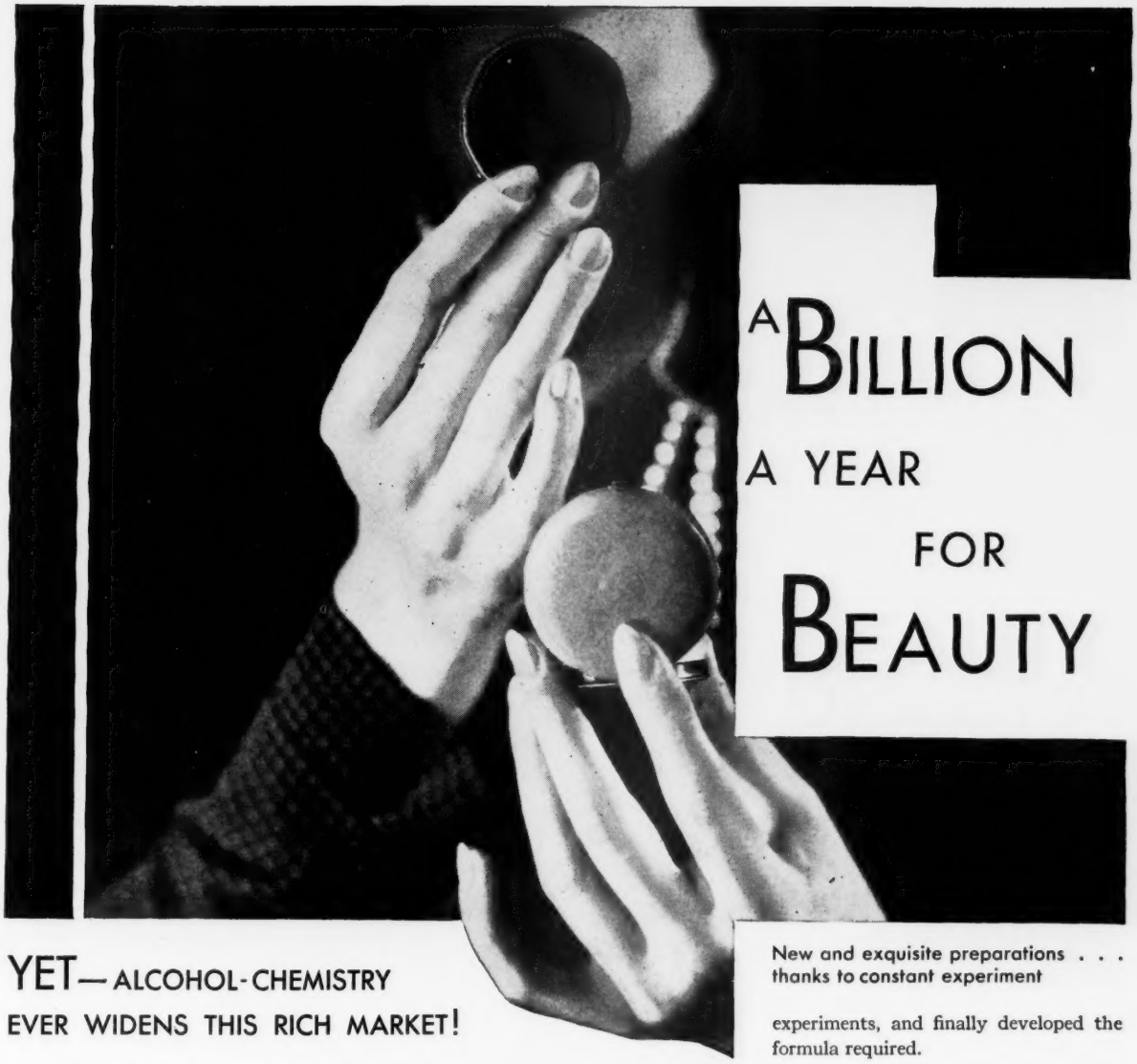
State of Kentucky Representatives: Lewis & Culp—226 North 15th Street, Louisville, Ky.
State of Texas Representatives: James Brokerage Co.—329 First National Bank Bldg., Houston, Texas
Sales Agents for British Empire and Holland: L. Lumley & Company, Ltd.—120-121 The Minories, London, E. 1, England



A BILLION A YEAR FOR BEAUTY

YET—ALCOHOL-CHEMISTRY EVER WIDENS THIS RICH MARKET!

PARIS!—shrine of beauty—long has it led the world in sales of toilet preparations. But today, even the cosmetic sales of beauty's capital are shadowed by the towering expenditures of feminine America for domestic preparations.

Not only has American genius popularized fine aids to beauty, but improved them, too! And there, alcohol-chemistry played a major part. Alcohol-chemistry, closely identified with a number of beauty preparations, has helped many cosmetic manufacturers to develop new products and widen existing markets.

For example—a well-known maker of toilet preparations worked out a new nail polish–unique because of its very unusual qualities. The main ingredient was to be collodion, a mixture of nitro-cellulose and an alcohol-solvent. But to procure the right results, a collodion of special characteristics had to be developed. Not an easy task, to be sure. But once called in, our chemists made the many necessary experiments, and finally developed the formula required.

New and exquisite preparations . . . thanks to constant experiment

Our chemists are, indeed, the modern "Minute Men" of industry. In numberless instances they have developed new processes and new formulas, difficult and often seemingly impossible to attain. Perhaps you, too, can use this assistance in overcoming obstacles that bar your products from new markets and greater profits.

U. S. Industrial Alcohol Co., is the largest producer of industrial alcohol and alcohol-chemicals. With bulk reserves warehoused at many strategic points, practically any quantity of any standard alcohol product can be delivered anywhere.

Send for a free copy of "Solvents," our recently revised booklet.

Incidents of the constructive service one industry renders to others

U. S. INDUSTRIAL ALCOHOL CO. **U. S. INDUSTRIAL CHEMICAL CO., INC.**

110 East 42nd Street, New York

COLLAPSIBLE
TUBES
SPRINKLER
TOPS
WHITE METAL MANUFACTURING CO.
HOBOKEN ~ NEW JERSEY

The Facts That Decided Them—

The men responsible for the safeguarding of the quality and the convenient use of the well-known products illustrated here found out these facts about Amerseal Caps after long and careful experimenting.

That these attractive closures offer efficient protection against leakage, evaporation and deterioration—

That Amerseal Caps are low in first cost—that because of their ease and speed in application by hand or machine, they cut capping costs—

Removed by a quarter-turn—another quarter-turn effectively recloses them. Also they do not "gum" or stick—

That Amerseal Caps do not "ride-off" under the roughest sort of shipping—

That because Amerseal Caps are drawn tightly and snugly over the top and around the sides of the glass finish, they keep the pouring edge of the container clean and sanitary—

And so—because they found them efficient on all these counts—these men are using Amerseal Caps.

If you will write telling us (1) the product you manufacture and (2) the size, type and number of containers you use, we will present in greater detail the advantages you may expect from Amerseal Caps.

A quarter turn to the right applies the Amerseal Cap. The lugs, formed to fit the contour of the glass threads, draw the cap down and effect a tight uniform contact *around the complete top edge of the container finish.*

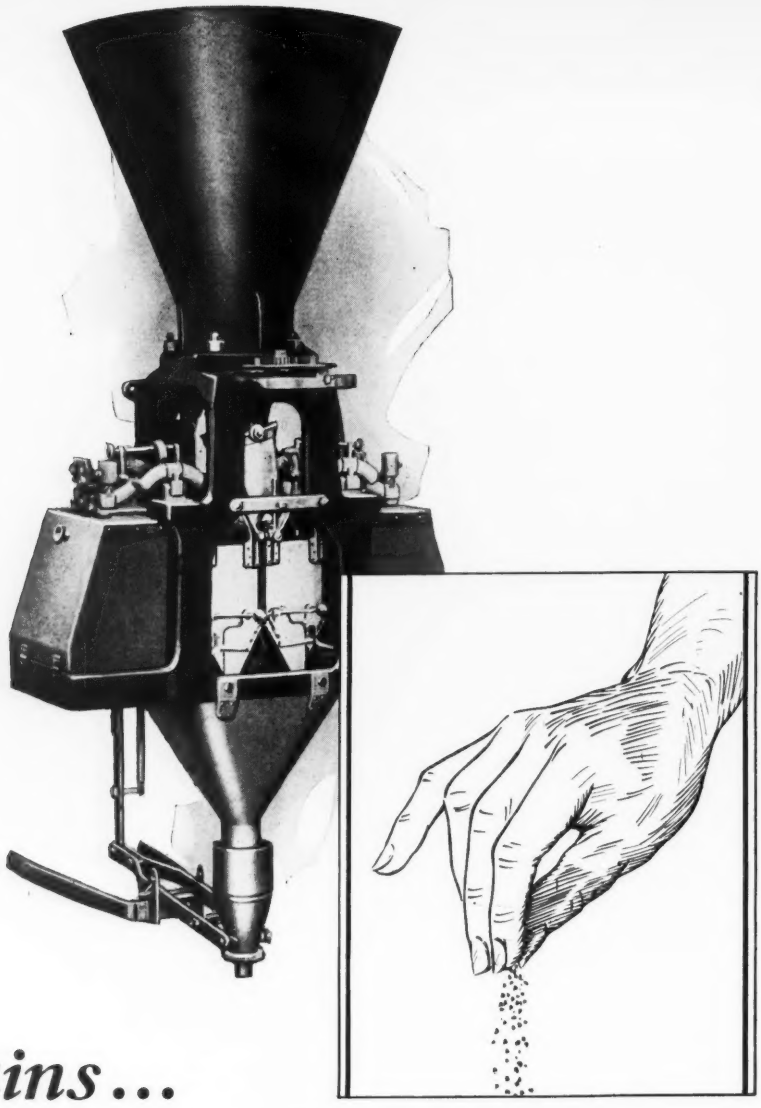
THE AMERSEAL CAP

AMERICAN METAL CAP COMPANY

2 Summit Street **Brooklyn, New York**

Eighteen Branch Offices to Most Efficiently Serve You

Atlanta	Houston	Philadelphia
Baltimore	Los Angeles	Pittsburgh
Boston	Louisville	Rochester
Chicago	Minneapolis	St. Louis
Cleveland	Newark	San Francisco
Detroit	New York	Seattle



Little Grains... that tell a big story

TO avoid the error of short weight, you prefer to err on the side of overweight. By supplying overweight you are fulfilling, beyond question, your duty with respect to the net weight statute. But the cost of overweight runs into thousands . . . if you add up the few grains of overweight in each container throughout the year.

This overweight can be avoided with AMF Automatic Weighing and Filling Machines. With these machines you get balanced weights, more surely and more quickly than the human eye and hand can possibly gauge them.

The No. 200 Net Weigher has a double scale; two compartments working in succession so that one may weigh accurately while the other is discharging. It is particularly well adapted for use by manufacturers of drugs and chemicals, for it weighs any granular or powdered material passing an ⅛th inch mesh, 90% to balanced weights, and the remainder to within 1/16th of an ounce.

Learn what this weigher saves you by sending for the AMF Bulletin on the subject.

AUTOMATIC WEIGHING MACHINE DIVISION
AMERICAN MACHINE & FOUNDRY CO.
5502-5524 Second Ave. - Brooklyn, N. Y.

AUTOMATIC MACHINERY

SCIENTIFIC ACCURACY
A safeguard of satisfaction

GAUGE TESTED
THEY FIT

THE famous research laboratories that this company maintains are known the world over for the work they have accomplished in aiding industry to overcome bottling and sealing troubles. They represent one of the most complete and extensive individual undertakings in the field of industrial research—they have given constructive assistance representing savings of millions of dollars in the bottling and sealing of a vast line of products ranging from soft drinks to chemicals.

CROWN SCREW CAPS

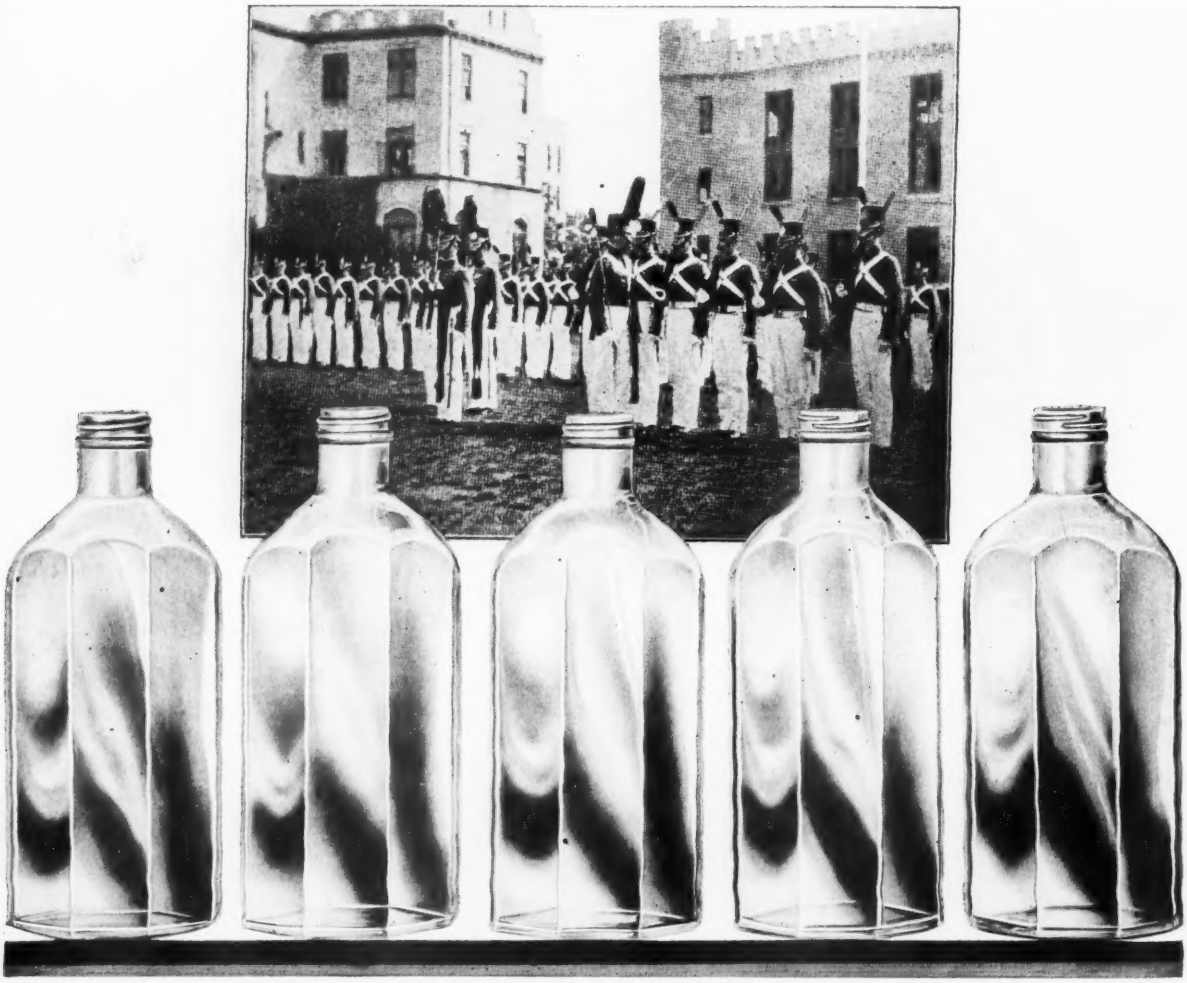
The perfecting of special liners to meet the particular condition of every product is a feature of the work of these laboratories which has made the Crown Screw Cap the most satisfactory, safe and efficient that the Drug Manufacturer can use. The facilities of these laboratories are available to you at any time they can be of help in your operation. Call upon them for technical assistance. Write today for complete information regarding this better seal—*gauge tested for accuracy*—and a sales builder through its convenience and advertising features. Handsomely designed and beautifully lithographed, Crown Screw Caps are an asset on many of the country's largest glass packaged products.

Write today for samples and complete descriptive data.

Crown Cork & Seal Co.
Baltimore · Maryland
Makers of the Crown
(THE FAMOUS CLOSURE FOR WIDE MOUTH GLASS)

Carr-Lowrey Bottles

ALWAYS PASS INSPECTION

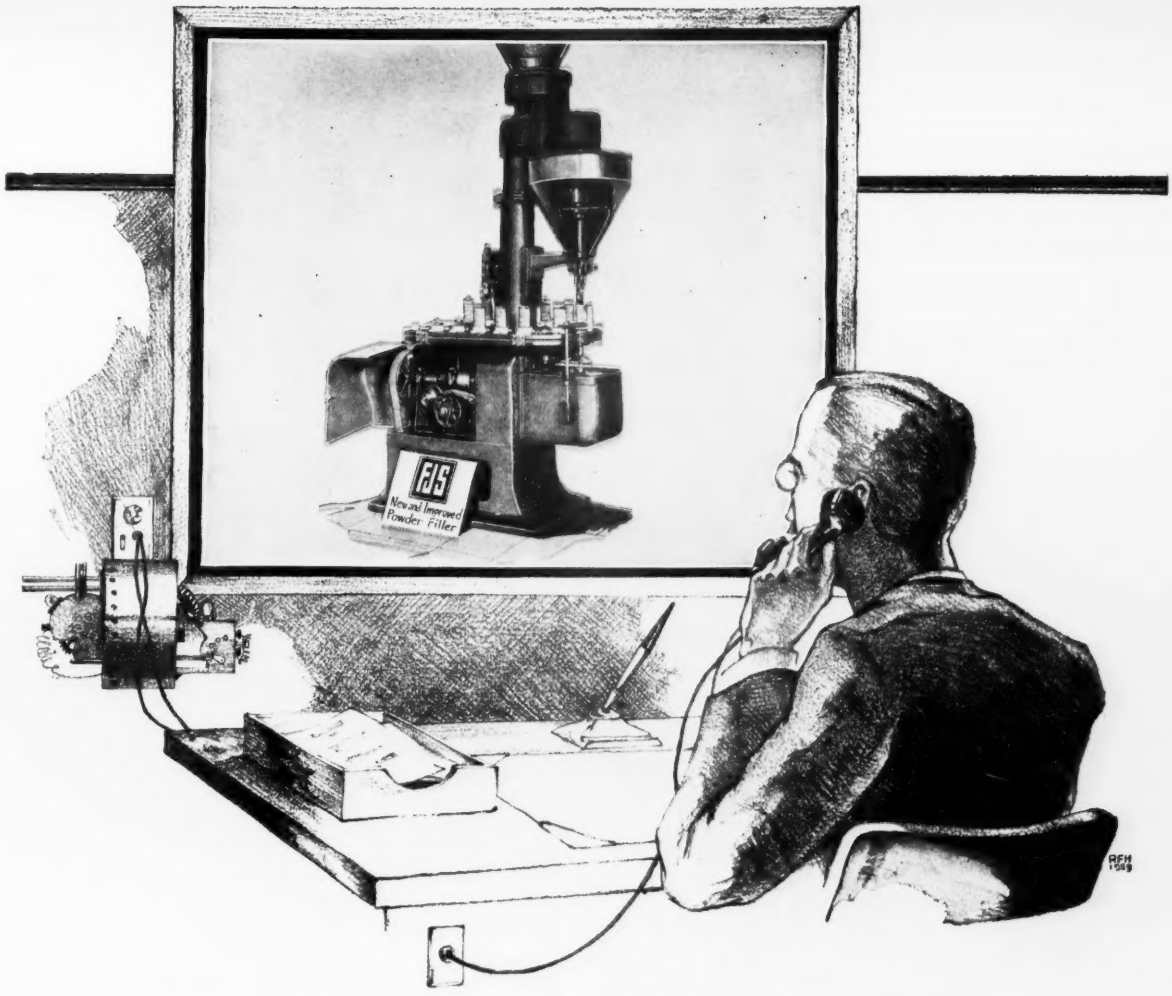


Sturdy and uniform, Carr-Lowrey Flint Glass Bottles pass in brilliant array from our automatic machines into the bottling plants of our customers.

Here they must stand rigid inspection, because modern bottling equipment requires bottles accurate in capacity, uniform in height, correctly finished and with proper distribution of glass to give strength.

Ask for samples of our Pharmaceutical or Proprietary bottles. Then compare the *sturdiness, uniformity and brilliance* of Carr-Lowrey bottles.

CARR-LOWREY GLASS COMPANY
BALTIMORE, MARYLAND
New York Sales Office:
Room 405, Liggett Building
41 East 42nd Street



Modern as Television !

Designed with the demands of the next ten years in mind—***The new STOKES Powder Filler.***

A versatile machine—will package practically any powdered product. Particularly suited for filling talcum tins and bottles and face powder boxes. With attachments will fill granular materials.

A production machine—capacity up to 40 per minute depending on size of container.

A convenient machine—silent, compact, quiet, easily adjusted, alemite lubricated.

Available in the basic model or with attachments as illustrated—automatic feed, capper, conveyor, etc.—to make it fully automatic.

Consult us on your powder filling problem or about any of the pharmaceutical equipment listed.

STOKES Pharmaceutical Equipment

Tablet Making Machines
Vacuum Pans and Dryers
Molds of all types
Powder Fillers
Drying Closets
Percolators
Water Stills
Drug Mills and Mixers
Alcohol Recovery Apparatus
Tube and Jar Fillers
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FJSTOKES MACHINE COMPANY

Pharmaceutical Machinery since 1895

5932 Tabor Road, Olney P. O., Philadelphia, Pa.

Yourr Consumer

Plant of Yourr Chemical Corporation

While *Yourr* Chemical Corporation is purely a product of the imagination we are of the belief *that you will find some, if not all, of its experiences* comparable to those of *your* organization . . . therefore interesting or helpful.

These experiences in story form have been appearing in this magazine thruout the year. If you *have missed any of them we will cheerfully supply* you with reprints of the complete series. Simply address the Promotion Department, Phoenix-*Hermetic Company, 2444 West Sixteenth Street,* Chicago, Illinois.

WHEN a product has been sold to the wholesaler . . . and the wholesaler has sold it to the retailer . . . and the retailer, in turn, has sold it to the consumer . . . the job is often considered complete.

And the job *is* complete if a one-time sale is all that is desired. But if repeat sales are the object, and this is usually the case, it is well to look to the quality of product *as received by the consumer* and the convenience of the container in which the product is packaged.

Sales statisticians are quick to step forward and say that the one-time sale holds little, if any, profit, and that the future of a business invariably depends upon repeat sales. This statement is not altogether unreasonable. Thus . . .

By preparing a product of good quality and sealing it in attractive, dependable and easy-to-open packages, *Yourr* Chemical Corporation has little to worry about in making *repeat sales* to old customers . . . or for that matter, making *first sales* to new.

DECORATED METAL CAPS

ANYTHING that improves the appearance of a package improves the prospect of making a sale of the product it contains.

PHOENIX *Decorated Metal Caps* improve the appearance of a glass package.

Because an illustration (even in full color) but poorly shows the attractiveness of decorated metal caps we suggest that you permit us to submit samples of recent productions for consideration in connection with *your* packages.

PHOENIX *Decorated Metal Caps* are decorated in our own lithographing departments under the supervision of PHOENIX metal lithographers. Thus, every consideration is given to the production of decorated metal which is not only artistic in design and color, but commercially practical from point of metal cap manufacture.

PHOENIX-HERMETIC COMPANY
Metal Caps for Glass Packages
CHICAGO NEW YORK

Offices: Rochester, Philadelphia, Boston, San Francisco, Los Angeles, Cleveland, Cincinnati, St. Louis
Offices and Plants: 2444 W. Sixteenth St., Chicago, Ill.; 14th Ave. and 38th St., Brooklyn, N. Y.

PHOENIX Metal Caps are used for sealing . . .

Preserves, Jams, Jellies, Marmalade, Honey, Apple Butter, Mince Meat;

Pickles, Olives, Horse Radish, Mustard;

Mayonnaise, Salad Dressing;

Fruits, Vegetables, Meat Products;

Pharmaceuticals, Proprietary Remedies, Toilet Preparations, Chemicals;

. . . and variations of these products too numerous to mention.

If you would like to have complete information regarding the use of PHOENIX *Metal Caps* in sealing your products give us the names of products, method of preparation, and yearly production . . . data, samples and prices will be promptly supplied.

PHOENIX
Metal Caps

THE perfection of multicolor printing has undoubtedly contributed an important share toward making the collapsible tube a preferred container by so many manufacturers.

Both for the practical product—the salve and ointment—as well as for the most delicate beauty cream where an exotic appeal to the public is necessary, we see collapsible tubes predominate in every display. Multicolor printing of collapsible tubes requires exceedingly careful and skillful workmanship. Colors must be printed in intricate designs so that not a hair line will show off-register. Delicate shades must be matched with faultless accuracy and uniformity.

As in laying the ground coat where tubes on mandrels revolve in contact with a roller carrying the color, the tubes are now turned in contact with a curved steel plate carrying a color and the part of the design to be registered in that color.

Special steel plates are necessary for this operation, both in order to secure sharp lines in design register and to retain this clearness during long runs without interrupting the color application.

In the Sheffield Process of multicolor printing on collapsible tubes, special machinery designed by Sheffield engineers is used. This equipment, in addition to specially treated steel-cut plates and enamel of our own formula, makes it possible to secure the brilliance in color, absolute uniformity in matching shades and the clearness of detail and design of the decorated Sheffield Tube.

This is one of a series of advertisements to better acquaint you with the methods of manufacturing collapsible tubes.

NEW ENGLAND COLLAPSIBLE TUBE COMPANY

Eastern Office and Plant
Dept. B-13 17-35 Waller St., New London, Conn.
Phone: New London 5319

New York Office
Dept. B-13 52 Vanderbilt Avenue
(Directly opposite Grand Central Station)
New York City
Phone: Murray Hill 1531

Western Plant and Office
Dept. B-13 3132-3134 So. Canal St., Chicago, Ill.
Phone: Michigan 0200

Over 1500 Chemicals to Serve You

MORE than 60 years ago when the Mallinckrodt Laboratories were first organized, less than 50 chemicals were manufactured. A new firm without previous experience but with the Spirit of Service dominating every thought and action. The answers to the many questions that constantly arose were determined solely by the dictates of this spirit. An auspicious beginning for any firm to be guided only by the satisfaction of its customers.

The trade was quick to recognize the excellence of Mallinckrodt chemicals and the integrity of their makers. A reputation was built that has endured and grown brighter through these many years. To-day the Mallinckrodt Laboratories are one of the largest manufacturers of fine chemicals in the United States—a distinction that we share with the many friends who helped to make it so.

While our products and customers have increased many fold, that personal touch which guided the Spirit of Service is never lacking and we invite you to call upon us at any time. We will not disappoint you.

Mallinckrodt
Chemicals

Standard for over Half a Century

MALLINCKRODT CHEMICAL WORKS

SAINT LOUIS MONTREAL PHILADELPHIA NEW YORK

Drug Markets

Vol. XXV NOVEMBER 1929 No. 5

Wholesale Price Cuts

It is of no greater value to manufacturers of drug trade items to have wholesalers pass discounts on to the retailers than it is to have the chain stores pass these discounts on to the consumers. Both of these groups of distributors give these discounts away for exactly the same reasons. They hope by means of lower prices to take business away from some one else, and also to attract customers for their own brands. It makes little or no difference if the practice is carried on with the retailers or with the consumers—it amounts to the same thing from the point of view of the manufacturer who is allowing these discounts.

While we have never been an advocate of price maintenance legislation and are not yet, we do not see why some manufacturers who are most painstaking in avoiding price-cutting in the retail trade, pay no attention to this practice in the wholesale trade where they have a more definite means of controlling it. While we are not foolish enough to advocate that these manufacturers confine their sales to the handful of strictly service jobbers that is left, and which has been largely forced to meet the increased discount situation, we do not understand how these manufacturers square the two sets of conditions.

Price maintenance, to our minds, means definite prices at every step in distribution. And a guarantee from large wholesale groups, (the majorities of whose stocks are not owned by retail druggists) that the retailers will sell at list although they buy at less than wholesale list, is price maintenance that will benefit only one or two groups of the trade but not the third.

Certainly if price maintenance were to benefit the manufacturer (as we are told it would) it would have to be enforced within the wholesale trade. The danger of greater wholesale discounts attracting retailers as customers for the private brands of the wholesalers has long since arrived. And the fact that these retailers do agree to maintain the prices of the goods of the manufacturers only gives these wholesalers an additional advantage over the chain in successfully marketing these private brands.

The Jobber Has Moved

Drug wholesaling is fast resolving itself into three definite groups: Co-operative mutuals; McKesson & Robbins; and the remaining independent wholesalers. Of these three, the first two are more or less similar in so far as some of our largest mutuals are not controlled by the retail druggists. Both these individually controlled mutuals and McKesson & Robbins have some stockholding customers; they both furnish merchandising aids that tie in with the wholesale house and help move more of the long profit brands of the wholesalers themselves. Both exist because of their attempt to help the retailer meet chain store competition, and both are still in the expansion stage.

While the Mutual Drug Company of Cleveland (the leading individually controlled mutual) is generally thought of as some new type of wholesaler, the truth of the matter is that this concern is simply a wholesaler which is conducting its business along much more efficient lines and passing some of the saving on to its customers in the form of greater discounts. This concern operates at lower cost due to many reasons. One of these reasons is the fact that it charges its customers for a buying privilege and another is that it operates almost entirely on a cash basis.

And the fact of the matter is that McKesson & Robbins is attempting to conduct a business that will result in the same savings to the retailers, taking the existing wholesalers as a starting point rather than attempting to build from scratch. Both of these companies will increase their earnings from the brands of merchandise that they manufacture, and they will in this way decrease the sales of the independent manufacturers through the existing independent retail outlets.

Those who are outside these two groups are practically all joined together in certain operations in the Druggists Supply Corporation. But this association of independent wholesalers has not in mind the development of the wholesale business in the same way as the other two groups have it in mind. While these wholesalers are interested in many of the things that merging companies are interested in, they do not intend to mutualize their business by selling stock to their customers. Nor have they thus far attempted to supplant their individual private brands with a single line of goods for all the members of the corporation.

With the chain store element, this apparently makes four distinct lines of wholesale distribution. But the fact of the matter is that there are still two—wholesalers and chains—just as there have been for some time past. Merely because the wholesale business has undergone a change which has resulted in cheaper cost to the retailer is no reason to suppose that the term "wholesaler" does not still adequately describe all the houses that perform this function. The chains made such a change in the jobbing trade inevitable. The question has long been asked, "what is the jobber going to do ?" He has done it.

Already Forgotten

Due to the fact that Dr. J. J. Durrett of the Food, Drug and Insecticide Administration has been away from his desk at Washington on a prolonged vacation or leave of absence, little has been said of the activities of his department with regard to the labeling of drug trade products. However, the rumor that he is shortly to resign still persists, and, although it may not be true, it has not been received with enthusiam throughout the whole trade.

As a matter of fact, a representative of a manufacturer who has had much to do with Dr. Durrett has said that he "was afraid the rumor might prove true". And the one thing that made him afraid was the thought of a successor who might prove to do more harm to the drug trade than Dr. Durrett. Another representative of a manufacturer stated that he also would be sorry to see Dr. Durrett go, "For", he said, "the doctor has mellowed a great deal in the past few months and is beginning to see our problems as well as his own".

The attitude of at least part of the trade toward the conduct of the administration's activities borne out by these two statements, bears out our contention that nothing should stop the efforts of the entire drug trade to have the matter settled once and for all by amending either the law or the regulations, whichever is necessary, so that such a condition can not arise again. And the sooner that such a move is attempted the sooner something definite will be accomplished. There is no reason to drop the subject for a time and then to revive it after more damage has been done.

Not long ago we advised manufacturers not to bank too much on Dr. Durrett's anticipated resignation and advised that they continue their efforts to have the law changed whether he stayed or went. Now we say do not bank

too heavily on his staying because just when the manufacturers think that things are moving smoothly again Dr. Durrett is likely to resign and a much more objectionable successor be named.

Cost of Medicines

An effort to reduce the cost of medical care seems to have become a great argument on the side of those who would reduce tariff levies, or at least prevent these levies from being increased. In the recent debates the fact that a product such as tannic acid found any use at all as a medicine was deemed sufficient reason by some legislators for attempting to hold the tariff on this item down. Also, despite the fact that the legislators concerned could not even pronounce "hexylmethylenetetramine", and had very little knowledge concerning its use, they knew that some of it was used in medicine, and that, therefore, it should bear no duty.

While there is ever so little medicinal tannic acid imported into this country, and while hexamethylenetetramine was long used as an accelerator in far greater amounts than it was employed in medicine, this trend on the part of legislators to regard the cost of medicine as something that they can rightly attempt to reduce, is extremely significant. If Congress is to feel that the cost of medical care is something in which its members should take an active interest when framing legislation, the drug manufacturers of the country had better take warning and see that they do not create any conditions that will eventually bring drastic action in a legislative way.

It might be quite true to-day that a man can make most anything and charge what he wants for it, but this country is fast developing to a point of increasing restrictions regarding the conduct of trading that there is no foretelling what new steps will be taken to-morrow. Surely the drug manufacturers have enough worries from Government regulation as matters now stand, and most of this regulation has been brought about by the irresponsible minority disregarding the effect of such control on the industry as a whole.

Whether they like it or not, the drug manufacturers of this country have a duty to the public that is fast being defined for all to read by the various laws that are being passed to regulate the industry. There is nothing new about a few in a particular industry creating conditions that finally brought objectionable legislation. The industry as a whole must learn how to control this objectionable minority if it exists. The best means of controlling a minority is by organization.

Keeping on the Toes

An unfortunate fact regarding drug manufacturing is that oftimes certain facts are undiscovered by anyone connected with pharmacy or medicine with the result that the action of certain preparations upon certain individuals are mistakenly credited to the make-up of the individual. That such things as glass containers can have a very definite effect upon the products packed in the containers is a fact that has but recently come to light.

If any manufacturer in the drug trade is permanently to exist, or if at least he is permanently to hold a reputation for the finest products that may safely be used in the most dangerous emergencies, he must be awake to these facts. It would greatly benefit a manufacturer if he devoted more time to the analysis of cases in which his products have failed to produce the desired result, or in which an unexplainable result has occurred.

There is so much to be learned even about the standard preparations that have been in use for decades at least, that one hesitates to think how much is unknown about the newer products that are placed upon the market. Is it any wonder that doctors as well as patients stick pretty closely to a name that they have learned to regard with supreme confidence? And are these manufacturers doing everything within their power to assure the doctors and the laity that the confidence thus placed is not misplaced?

The responsibility of drug manufacturers can not be over-estimated. But oftimes it is apt to be forgotten in the rush of affairs that now press upon drug manufacturers in their fight to keep up with the trade in a commercial way. However, it seems that manufacturers should occasionally take fresh stock of the extent to which they go in really making their products more efficacious. It is easy to forget one's responsibility in times of competitive stress, and a reconsideration of one's attitude in this regard is helpful indeed.

Because it is indicative of the soundness of business conditions, we like the very recent remark of a New York broker: "Run over the Stock Exchange list to-day, discarding all the cats and dogs and hybrids . . . it will be found that the yield of selected issues is still only between 4½ and 5½ per cent."

The Benefit of Deflation

The one outstanding result that will come from the recent sharp deflation of stock prices will be the release of money for use in those necessary industries that have been denied this money due to the high rate for money placed on call. In Europe, it is pointed out, there has not been sufficient money on hand to finance the collectors of crude drugs in a normal way. Consequently there has been less quantities of drugs collected during the collection season. That this will bring a scarcity before the approach of the next crop cannot be denied. High prices are practically certain for these stable commodities.

Likewise have various other industries suffered during the period of speculation due to lack of funds. The releasing of this money for development purposes will mean much to the real prosperity of the country rather than to the superficial prosperity which many unfortunately were led to believe was permanent.

Cruel as it may seem, it is best for those who were speculating and making the recent inflated market possible, as it is best for every one else, that the large number of individuals throughout this and other countries of the world, that they have been placed in a position that will keep them out of the market for a very long time, if not forever.

With the public appetite for securities in over-financed industrials pretty well satisfied, and with less people available to absorb the issues already only partially floated, the merger market is certain to suffer a severe shock if not dissappear almost completely. With the passing of the latest bull market will pass all kinds of uncertainty and hysteria that should result in more real progress to business.

Regarding the Tariff

If there is one thing indicated by the present difficulties over the passage of a tariff bill, it is that the attitude of many important factors in tariff legislation is changing very definitely and may change still further. For when we find the country as a whole inclined to consider our export business far too valuable to-day to lose for a slight gain in domestic sales, we find a condition that ten years ago was thought to be impossible.

But further than this there is the question of American owned plants in foreign countries such as the Fordson Tractor plant in Ireland from which goods are shipped into the United States. Because tractors are a farm implement and free of duty, Ford Motor Company has found it advantageous to manufacture their tractors abroad. It is more than probable that while the move to eliminate completely the tariff on automobiles may have originated through the desire to ease conditions in our export markets, there is great danger from the point of American labor.

If the present financial developments go far enough we may see a complete change on the part of the financial interests regarding the necessity of a tariff at all. We may eventually see capital advocating the reduction and abolition of the tariff, and labor interests fighting to retain or increase it. At any rate it is very difficult to tell just who is a real friend of the tariff to-day, and it will be still more difficult to bank on anybody's real leaning as the situation develops further.

Ten Years Ago

From our pages November, 1919

A cablegram received in New York from Batavia, by Java interests here, stated that an agreement had been made by Dutch planters by the terms of which 200,000 kilos of the cinchona harvest of 1920 will go to the Bandoeng quinine factory owned by Dutch manufacturers, and the remainder of the crop to the United States and Europe. An average harvest of cinchona in the Dutch East Indies is 500,000 kilos.

William Jay Schieffelin, of Schieffelin & Co., who is also head of the Citizens Union, has won a point in his suit for $100,000 for libel against Mayor John F. Hylan because of a letter by Mayor Hylan to Health Commissioner Copeland on April 15, last, making accusations against Mr. Schieffelin, as head of the wholesale drug firm of Schieffelin & Co., concerning the sale of narcotics to drug stores that were violating the anti-drug laws. The letter branded the Schieffelin firm as one of the agencies through which drug addicts were able to get their supply, and pointed out the effect of narcotics on crime.

Vigilant co-operation of the members of the N. W. D. A. in enforcing the prohibition laws was urged by Arthur D. Parker, retiring president at the New Orleans convention, who commented on reports that plans were being formed by unscrupulous physicians and druggists to supply the public with whiskey, and said in conclusion: "We do not want five cents of this dirty profit, and I am sure I speak for every member of the association when I pledge our support in the enforcement of the prohibition law and also the Harrison anti-narcotic act."

The New Jersey Wholesale Drug Co. gave a dinner on the evening of Oct. 30 at Newark, the occasion being intended to bring together the stockholders and afford an opportunity for felicitations over the excellent results accomplished during the last year.

McKesson & Robbins have leased the three upper floors of the building on the southeast corner of William and Ann sts. for office purposes. They will retain all of their present space at 91-97 Fulton st. through to Ann st.

Expanding the Mutual Wholesalers

The largest of the co-operative mutual wholesalers, Mutual Drug Company of Cleveland, which offers figures to prove that it operates itself and can operate branches more efficiently than McKesson & Robbins, is seeking to establish a voluntary chain of wholesalers all paying royalties and all handling Mutual Drug Company's private brand.

THERE seems to be developing a dispute as to just who will save the independent retailer from the clutches of the chain store so that the manufacturer may be protected from these chains when they own the entire retail trade and dictate their own terms. At least the fact that the independent must be kept "independent" in name at least although they may be tied up in many ways with distributing groups is said to mean much to manufacturers. Now that McKesson & Robbins have advertised themselves as the real saviour of the independent retailer and have built the largest single company in the wholesale field, the Mutual Drug Company of Cleveland is apparently off on a new era of expansion during which it hopes to regain its position as the largest wholesale distributor of drug trade merchandise.

But more properly to present the picture of the present developments let us first explain that although the term "co-operative mutual" is properly used collectively in describing the members of the Federal Wholesale Druggists' Association, there is quite some difference between the true definition of a co-operative wholesaler, and one which merely calls itself by a mutual name. Co-operatives are always owned and controlled by a group of retail druggists. While all the druggists buying from a co-operative may not hold stock due to the fact that they became members after the total amount of stock was subscribed, the wholesale business of a co-operative wholesale house is not dominated by a few individuals who are not retailers themselves.

On the other hand, there are "mutual" wholesale houses that are purely capitalistic enterprises. In fact control of the stock of the Mutual Drug Company of Cleveland is reported by those close to Frederick T. Roosa to repose in the hands of Mr. Roosa and his family. While these houses were at one time "mutual" in so far as they gave to the druggist additional discounts made possible by their more efficient method of operation as compared with the service wholesalers, the fact that the service wholesalers have practically all met the competition in discounts following similar action by McKesson & Robbins, makes the presence of "mutual" in the name somewhat misleading to-day. Another way of looking at the distribution of discounts by the "mutuals" is that this was a price concession that gave them their start. The fact that practically all wholesale distributors give the same discounts to-day merely proves that this new group was years ahead of their old line competitors in conducting the wholesale drug business.

But to-day the Mutual Drug Company of Cleveland is not going to stand by and see McKesson & Robbins gobble up great numbers of the existing wholesalers and operate on a somewhat similar plan. For while McKesson & Robbins does not charge the druggist a $25 membership or "buying privilege", they do sell stock to any druggists who cares to buy it, and they do claim that they will let him operate in a way that will allow him to meet chain store competition.

So the announcement has been made by Frederick T. Roosa, president of the Mutual Drug Company of Cleveland, and by Robert R. Ellis, formerly of the Van Vleet-Ellis Drug Company of Memphis, Tenn., that Mr. Ellis is now a partner of Mr. Roosa's in the operation of the Mutual Drug Company and its affiliated company "URE" Druggists, Inc. While Mr. Roosa has long had able assistants travelling the country and conducting meetings of retail druggists

Comparison Statement of Sales, Expenses, Invested Capital, Surplus and Earned Dividends of Service, Mutual and Contract Jobbers

No.	McKESSON ROBBINS 1928		% OF SALES	M. K. & R.	MEMPHIS MUTUAL SIX MONTHS AVGE.	%	MUTUAL DRUG CO. 1928	%	SERVICE JOBBER WITH CONTRACT AND WAREHOUSE — SERVICE DEPT. 66 2/3% of sales	%	Adjustments	MUTUAL DEPARTMENT 33 1/3% SALES	%	CONSOLIDATED TOTAL SALES	%
	SALES GROSS	$88,720,575.00		RATIO	$1,073,600.00	53.68	AVERAGE		$2,000,000.00	100.%		$1,000,000.00	100.%	$3,000,000.00	100.%
	Discounts credits and Returns	4,852,740.	5.47		926,400.	46.32			1,640,000.	82.	Available	820,000.00	82.	2,460,000.00	82.
	NET SALES	83,867,835.	100.%	$2,000,000.00	2,000,000.00	100.%	$2,000,000.00	100.%	$2,000,000.00	100.%		$1,000,000.00	100.%	$3,000,000.00	100.%
	Cost of Sales	69,655,460.	83.05	1,671,000.00	1,632,000.	81.60	1,649,800.	82.48	1,640,000.	82.		820,000.00	82.	2,460,000.00	82.
	GROSS PROFIT	14,217,375.	16.95	329,000.	368,000.	18.40	350,400.	17.52	360,000.	18.	From	180,000.00	18.	540,000.00	18.
1	TOTAL EXPENSES	11,507,988.	13.72	274,400.	220,000.	11.	117,000.	5.85	280,000.	14.	Warehouse	60,000.00	6.	340,000.00	11.33
	Net After Expenses	2,704,387.	3.23	54,600.	148,000.	7.40	233,400.	11.67	80,000.	4.	and	120,000.00	12.	200,000.00	6.67
	Cash Discounts and Interest	1,524,698.	1.82	36,400.	32,000.	1.60	42,400.	2.12	36,000.	1.80	Contract	18,000.00	1.80	54,000.00	1.80
2	TOTAL NET INCOME	4,229,084.	5.05	91,000.	180,000.	9.	275,800.	13.79	116,000	5.80		138,000.00	13.80	254,000.00	8.47
	ASSETS														
	Inventory	15,080,540.	18.00	360,000.	360,933.	18.04	206,267.	10.31	350,000.	17.50	(W 100,000.)		(8.17)	250,000.00	8.33
	Receivables	16,980,020.	20.24	404,800.	305,444.	15.27	168,829.	8.44	350,000.	17.50	(W 100,000.)	50,000.00	(7.50)	300,000.00	10.
	Real Estate and Buildings	7,301,324.	8.75	175,000.											
	Other Investments	1,459,347.	1.73	34,600.	89,756.	4.48	13,960.	.69	25,000.	1.25			(.41)	25,000.00	.84
	Cash Balances	2,269,307.	2.70	54,000.	9,700.	.48	15,804.	.79	25,000.	1.25			(.42)	25,000.00	.83
	TOTAL ASSETS	43,090,542.	51.42	1,028,400.	765,833.	38.27	404,860.	20.23	750,000.	37.50	(150,000.)		(17.50)	600,000.00	20.00
	LIABILITIES														
	Accounts Payable	5,344,045.	6.37	127,400.	62,622.	3.13	53,863.	2.69	65,000.	3.25	Purchases 33 1/3 INC.	21,677.	(.36)	86,667.	2.89
	Other Liabilities	2,865,983.	3.44	68,200.	5,000.	.25	1,858.	.09	5,000.	.25			(.03)	5,000.	.16
	Notes Payable	4,538,993.	5.41	108,200.	165,000.	8.25									
	RETAILERS CASH DEPOSITS				26,765.	2.44	107,369.	5.37				40,000.		40,000.	1.34
3	Preferred Stock 321,507 share $50	16,075,350.	19.20	384,000.			200,000.	10.	650,000.	32.50	(200,000. (33 1/3%))		(17.50)	450,000.	15.
3	Common Stock 682,114 Share $20.30	13,847,397.	16.50	330,600.	200,000.	10.									
3	Surplus	418,771.	.50	10,000.	306,446.	15.30	41,770.	2.08	30,000.	1.50			(.89)	18,333.	.61
	TOTAL LIABILITIES	43,090,542.	51.42	1,028,400.	765,833.	38.27	404,860.	20.23	750,000.	37.50	(150,000.)		(17.50)	600,000.	20.
2	TOTAL NET INCOME	4,229,084.	5.05	91,000.	180,000.	9.	275,800.	13.79	116,000.	5.80		138,000.	13.80	254,000.	8.47
	ADJUSTMENTS														
	Interest on Notes			6,492.	9,900.	.49									
	ADMINISTRATION OR CONTRACT			Mutual Sales 1%	9,264.	.46	10,000.	.50	See Mutual Analysis paragraph for Division of Sales			10,000.	1.	10,000.	.34
	Retailers REFUNDS			8.40% 926,400.	77,817.	3.89	205,800.	10.29				81,300.	8.13	81,300.	2.71
	Total Adjustments				96,981.	4.84	215,800.	10.79				91,300.	9.13	91,300.	3.05
	NET TAXABLE INCOME	4,299,084.	5.05	84,508.	83,019.	3.62	60,000.	3.%	116,000.	5.80		46,700.	4.67	162,700.	5.42
	Income Tax	487,803.	.59	12,120.	9,960.	.49	7,200.	.36	13,920.	.70		5,604.	.56	19,524.	.65
	NET SURPLUS FOR DIVIDENDS	3,741,281.	4.46	72,388.	73,059.	3.13	52,800.	2.64	102,080.00	5.10		41,096.	40.25	143,176.	4.77
3	ON CAPITAL AND SURPLUS of	30,341,518.	36.20	724,600.	506,446.	25.30	241,770.	12.08	680,000.	34.	(211,667.)	NONE	(18.39)	468,333.	15.61
	EARNED DIVIDENDS		12.33%	9.99%	14.42%		21.42%		15%					30.54%	
	RECAPITULATION OF SALES %														
1	AVERAGE EXPENSES %		13.72%	13.72%	11.%		5.85%		14.%					11.33%	
2	AVERAGE NET INCOME %		5.05%	5.05%	9%		13.79%		5.80%					8.47%	
3	AVERAGE CAPITAL AND SURPLUS %		36.20%	36.20%	25.30%		12.08%		34.%					15.61%	
3	AVERAGE TURNOVER TIMES		2.76%	2.76%	3.95%		8.27%		2.94%					6.41%	

The above table is contained in the pamphlet compiled by Mutual Drug Company of Cleveland for the purpose of showing the advantages of independent wholesalers operating under the Mutual Drug system. The items circled are negative quantities which were shown in red on the original pamphlet.

1	ELLIS JONES DRUG COMPANY			MEMPHIS MUTUAL ADJUSTMENTS					
	SIX MONTHS April 1st, 1928 to October 1st, 1928.		% of SALES	SIX MONTHS October 1st 1928 to April 1st 1929	% of SALES	INCREASED	%	DECREASED	%
	SALES Service	$508,968.00	100.%	$437,245.00	53.68			$71,723.00	14.09
6	SALES MUTUAL			377,288.	46.32	$377,288.00			
2	TOTAL SALES	508,968.00	100.	814,533.	100.	305,565.	60%		
	Cost of sales	415,317.00	81.60	664,668.	81.60	249,341.	60.		
	Gross Profits	93,641.	18.40	149,875.	18.40	56,224.	60.		
3	TOTAL EXPENSES	81,434.	16.	89,598.	11.			40,728.	32.
	Total After Expenses	12,207.	2.40	60,277.	7.40	48,070.	394.		
	Cash Discounts	8,143.	1.60	13,032.	1.60	4,889.	60.		
5	TOTAL NET INCOME	20,350.	4.	73,309.	9.	52,959.	260.		
	ASSETS								
	Inventory	327,660.	64.38	360,933.	44.31	33,273.	10.15		
	Receivable	420,255.	82.58	305,444.	37.49			114,811.	27.23
	Other Investments	74,957.	14.92	89,756.	11.01	14,799.	19.75		
	CASH BALANCES	33,988.	6.48	9,700.	1.19			24,288.	71.46
	TOTAL ASSETS	856,860.	168.36	765,833.	94.			91,027.	10.62
	LIABILITIES								
	ACCOUNTS PAYABLE	83,488.	16.40	62,662.	7.68			20,826.	24.94
	Other Liabilities	2,500.	.49	5,000.	.61	2,500.	100.00		
	Notes	280,000.	55.02	165,000.	20.25			115,000.	41.07
	RETAILERS DEPOSITS			26,720.	3.28	26,720.	NEW		
	COMMON STOCK	200.000.	39.30	200,000.	24.55				
	SURPLUS	290,872.	57.15	306,451.	37.63	15,579.	5.37		
	TOTAL LIABILITIES	856,860.	168.36	765,833.	94.			91,027.	10.62
	NET INCOME	20,350.	4.	73,309.	9.	52,959.	260.		
	ADJUSTMENTS								
	Interest on Notes 6 Months	8,400.	1.65	4,950.	.97			3,450.	41.07
	CONTRACT			1%3,772.	.46	3,772.	NEW		
8	RETAILER REFUNDS		8.40%	31,692.	3.89	31,692.	NEW		
	TOTAL ADJUSTMENTS	8,400.	1.65	40,414.	5.32	32,014.	NEW		
	NET INCOME 6 MONTHS	11,950.	2.68	32,895.	3.68	20,945.	175.%		
	Investment	490,872.	96.45	506,451.	62.17	16,579.	3.18		
	DIVIDEND ACCOUNT 6 MONTHS	2.44%		6.50%			266.%		
	DIVIDEND ACCOUNT 12 MONTHS	4.88%		13%			266.%		

Another table taken from the Mutual Drug Company pamphlet showing the change brought about in the financial condition of the Ellis-Jones Drug Company by introduction of the Mutual Drug Company system.

in an effort to convince these druggists to become members, he has never attempted to sell his idea to the independent service wholesalers who may want some method of meeting the competition of the chains, co-operative mutual wholesalers, and McKesson & Robbins. Now it seems that Mr. Ellis is the man who will undertake this job. It is thought to be his work to open mutual departments in the independent service wholesalers of the country and aid them in operating profitably on the long discounts which they are now forced to give.

Beside establishing these mutual departments in service wholesalers, it is understood that co-operation will be sought between the Mutual Drug Company of Cleveland and the other mutuals. In fact it is thought that the establishment of the mutual departments in the service wholesale houses will take place only in those localities in which there is not a co-operating mutual wholesale house. Such of these mutual houses as join in the plan will naturally push the line of products made by "URE" Druggist, Inc.

The attempt to establish the mutual departments in existing independent wholesalers follows the establishment over a year ago of just such a department in the Ellis-Jones Drug Company of Memphis, Tenn. E. M. Ellis, president of the Ellis-Jones Drug Company, is a brother of Robert R. Ellis who is now associated with Mr. Roosa. This mutual department was established under the name of Memphis Mutual. The ownership of this department is understood to rest with the owners of Ellis-Jones, although it is stated by those close to Mr. Roosa that the Mutual Drug Company of Cleveland receives one per cent. of the sales of the Memphis Mutual as a royalty for the establishment of the department. It will be seen, therefore, that the establishment of these departments are very profitable to the Mutual Drug Company of Cleveland, although the company does not own outright these other wholesalers. Furthermore, the establishment of a mutual department in a service wholesale house furnished the Mutual Drug Company of Cleveland with another large outlet for the line of goods manufactured by their affiliated company, "URE" Druggist, Inc.

While the successful type of wholesale house had a fundamental weakness due to the fact that it made

possible their great economy by handling only fast sellers and letting the service wholesalers carrying the items that could not be carried at the mutual's operating expense of from 5 to 6 per cent., this is not to be corrected by introducing into the chain of distribution a fourth link. This link is in the form of centralized warehouses to which the slow moving items will be shipped by manufacturers. It is to be assumed that only such goods will be shipped to these points as the individual wholesale members or branches cannot buy in sufficient quantities to obtain the maximum discounts. From these warehouses smaller lots of the slow moving goods will be shipped to the wholesale members or branches, thus enabling these branches to keep their inventories of slow moving items at a minimum.

This method of a chain of wholesalers handling their own distribution from manufacturers to themselves is much the same as a chain of retail stores handling their own distribution from wholesalers to themselves. It is to be assumed that the cost of introducing this fourth link in the chain will be less than the savings derived therefrom.

As a definite means of proving that their scheme of distribution is more efficient than any other method in existence, the Mutual Drug Company has compiled a printed statement of comparison for the following wholesale units: McKesson & Robbins; Memphis Mutual; Mutual Drug Company of Cleveland; service wholesaler with mutual department.

McKesson & Robbins' Analysis

With reference to analysis of McKesson & Robbins, the statements are made: "The percentages used in the above statement were taken from the annual report of December 31st, 1928.

"Gross profits of 16.95% on sales evidently was obtained by deducting cash discounts allowed on sales, credits for errors and merchandise returned total 5.47%.

"The actual gross profits are trade and cash discounts on purchases and the markup over cost on unlisted items or the price charged on invoices. Therefore, the gross profits would be 16.95% plus 5.47%, plus cash discounts of 1.10% of total 23.52% on total sales.

"The normal average gross profits at wholesale around 20% of sales would indicate excessive markup on unlisted items sufficient to cover discounts allowed on Patents, not all sales having been discounted would increase gross profits as indicated.

"Expenses 13.72% on sales clearly indicates they cannot be considered competitive with co-operative or service jobbers operating a mutual department.

"Turnover will be the future key to net profits at wholesale. Hence with capital and surplus 36.20% of sales, or only 2.75% times turnover annually, against competition with 6 to 10 times turnover will provide competitors 100 to 200% greater net income on capital and surplus.

"Factory products will provide the ownership of items at the cost of material, labor and transportation or combined profits of both manufacturer and wholesaler, which will permit funds for consumer publicity on their products and the opportunity to secure new customers at retail."

Mutual Drug Analysis Itself

With reference to the analysis of the Mutual Drug Company the following statements are made:

"Mutual membership will cover the cost of securing members on the Mutual Plan. It is not redeemable but may be transferred to a successor subject to Mutual approval.

"Cash Deposits represent a partnership in the division of net profits over expenses on trade discounts, and is not available elsewhere. Hence, his support must be continuous even on equal basis in order to guarantee to him the future opportunity to own merchandise at or near the cost of his chain competitor.

"Accounting System of securing gross profits on each individual member's purchases monthly prevents Jones from receiving profits over expenses on the sales of Smith, etc., and we do not pass back in monthly refunds a single dollar not made on sales over the average expenses each month on trade discounts. Therefore, the refund is the net surplus on each month's purchases over expenses and does not apply to specific items.

Mutual Discounts

"Mutual Pricing for twenty years has been identically the same for every item at all our houses, without a scale according to quantity, but on 1/12 dozen or over. Recently we have been testing out a new classification of sales versus monthly specials at cost, agents' transfer orders, price maintained items, and balance on regular terms. The results, obtained by separate invoicing and tabulation, clearly indicates that increased sales secured by this differential classification has not caused a net decreased operating income. Hence we recommend differential discounts, with the Memphis-Mutual 8% on the balance of purchases.

Mutual Department Sales $1,000,000.00.

5% Special 15% Net.....	50,000.00	7,500.00
10% Agents 10-2%.....	100,000.00	11,800.00
10% Net Mfg. 2%.....	100,000.00	2,000.00
75% Regular 8%.....	750,000.00	60,000.00

"The total will not exceed 8¼%, which will be satisfactory, if not preferable to Mutual 10.29% average refunds in 1928.

"Members' Acceptance and appreciation of monthly special items at cost has been universal over our entire branch territory, and the percentage of sales at branches has not varied 1% of total sales. Hence the plan is dependable and under perfect control.

It also teaches our members to limit and control the number of items they sell at competitive prices on a percentage basis of their total sales. We have reports of stores that increased total sales 30% with only 15% of sales at cut rate.

"Mutual net income after expenses, has been equal to total invested capital at wholesale for five years consecutively, and after division of net profits on trade discounts with the retailer, our surplus has been equal to 20% on capital investment."

Ellis Jones Improvement

The Memphis-Mutual is analyzed as follows:

"These comparison periods represent the Ellis-Jones Drug Company of Memphis, Tenn, for a period of six months business prior to October 1, 1928, and six months obtained with a Mutual Department added. Figures used were compiled from monthly balance sheets, except cost of sales and gross profits which were the average for 1928.

"Sales: The 14% decrease in the service department in the last period reflects the discount customers transferred to the Mutual Department; and the 60% increase in sales of $305,565.00 represents increased purchases of former discount customers plus new accounts not sold in the first period.

"Increased sales in a Mutual department will not increase merchandise inventory or accounts receivable, which are prepaid by cash deposits of retailers—hence greater turnover and net profits on capital investment.

"Expenses are confined to payroll—labor, order clerks, checkers, packers, pricers and billers—as $305,565.00 of new business cost was $8,164.00, or 2.72% of sales.

"Net Profit during the last period increased $52,929.00, or 260% over the first period, which reflects the value of a mutual department operated by a service wholesaler.

"Weekly payment of accounts keeps a steady flow of funds coming in equal to sales and sufficient to pay expenses and replacement of merchandise sold weekly; also permits a reduction of bank balance and bank loans to provide funds that are frozen in past due accounts.

"Retailers refunds on purchases of the net profits on trade discounts after deducting all expenses; the elimination of accounts receivable by advanced cash deposits which represent 50% of invested capital at wholesale; the elimination of salesmen's salaries and expenses; and economy produced by voluntary orders and co-operation, increased turnover and net profits—all of which represents 50% decrease in both expenses and capital investment, and therefore is not a discount on sales, but a division of net profits for services rendered and capital invested.

"This division of capital investment into two separate classes—capital stock and cash deposits—and the division of expenses with retailers, make them dependent upon net profits over expenses for income on deposits and services; also qualifies every customer as a resident salesman, phoning or mailing orders to his warehouse. This method of classification produces the economies that will guarantee a satisfactory income and future existence on a competitive basis at wholesale and retail".

Chicago Happenings

Thornton C. Jesdale, who has been associated with the Chicago office of Monsanto Chemical Works for a number of years, has now been appointed to the post of junior salesman.

The Chicago Perfumery, Soap and Extract Association will hold its Annual Banquet on Wednesday, December 11th, at the Edgewater Beach Hotel. The Entertainment Committee, consisting of Harold E. Lancaster, Chairman, J. W. Bicks, George Woods, Frank T. Robinson, and A. J. Dedrick, has already made extensive preparations. This yearly event is generally regarded as the outstanding social event of the season throughout the Chicago trade and plans have been made to extend an even greater appeal this year than has been made in the past. At the meeting held at the Midland Club on November 6th, the members were highly entertained by the recital of George Lewis, well known comedian and late of the "Big Parade" company.

Royal Crown Co. has announced, through H. J. Fischer, president, that Charles Kroft, has been appointed to the post of manager.

Chicago Sanitary Products Co., Inc., recently purchased the business known as the Kleanwell Co., Chicago Sanitary Products Co. will continue to operate at 3127W. Harrison st.

Newport Chemical Works, Inc., successors to Rhodia Chemical Company, has announced the consolidation of the offices of the latter company with the Newport offices at 605 W. Washington st. J. Edward Wehmer will continue as the Chicago representative of what will be known as the Rhodia division.

The Chicago office of Norda Incorporated recently devoted an extensive section of the quarters at 510 North Dearborn st. to a stock room for items of quick demand. As the same amount of warehousing will be maintained, this means a considerable increase in the total amount of stock carried in Chicago.

According to the banquet committee of the Chicago Perfumery, Soap and Extract Association, which has enlisted the co-operation of the cosmetic manufacturers for the purpose of filling a box for the ladies at the annual banquet, the package this year will contain a wider variety than usual of soaps, powders, rouge, tooth pastes and kindred items. The manufacturers have, for the most part, supported very generously this unique advertising project.

Dr. E. L. Newcomb, secretary of the National Wholesale Druggists' Association, broadcast on Oct. 18, an address "The Pharmacist as a Purveyor of Drugs". This address was broadcast over station WOR, Newark, N. J., in connection with Pharmacy Week activities.

Frederick Stearns & Co. have appointed Joseph I. Palistrant manager of their New York branch. Mr. Palistrant has been with Stearns for fifteen years, principally in connection with sales work.

Like most products of nature, Quince Seed varies widely in its quality, no matter what its appearance or country of origin. All lots should be tested by the purchaser before comparing prices.

A camel train transporting quince seed and other products of nature to a swifter method of shipping

Handling bags of quince seed at the cleaning plant

Evaluating QUINCE SEED

By G. R. Rinke*

THE Quince Tree (Cydonia vulgaris) is quite widely distributed throughout temperate climes, but the recovery or collection of the seed of the fruit is practiced on a commercial scale in only a few sections.

India, Africa, Persia, and Spain are the main sources of supply, although some dealers in the article give names to their seeds, in the sense of a distinguishing mark or brand, which names might lead one to believe that the seed so offered originated on some island or remote part of a continent where quince trees may grow, but where neither the fruit nor the seed is available in sufficient quantity to justify the handling of the article in a commercial way.

Being a vegetable product, there not only is considerable choice as to the quality of the seed according to the part of the world it comes from, but also lots from the same district vary considerably in value.

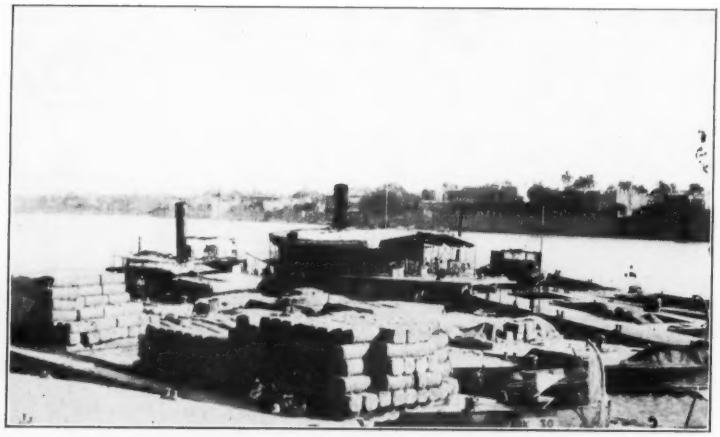
The value of quince seed lies in three characteristics:

Mucilagenous content.

Color of solution after extraction of mucilage by water.

Freedom from adulteration, dirt, and other inert material, and bugs.

In some producing sections, quince



River steamers which take the seed on its journey to the ocean steamships

*John Powell & Co. Inc., New York.

The railroad train that receives the quince seed from the camel train

fruit is collected simply for the seeds. The fruit may be permitted to rot and air dry after which the seed is reclaimed. Such seed is likely to be in jumbled up clusters on and in which there is a considerable content of dessicated fruit pulp, shell, and dirt. Some lots of quince seed are badly bored, and, if stored by the buyer, may soon become very buggy. One common type of insect life that is partial to quince seed is the "drug store beetle". (Sitodrepa panicea).

In other sections, the seed may be a by-product of the production of jam on a commercial scale, or the seed may be collected from innumerable dwellings and sweet meats shops.

By a collection of many small lots of a pound up, larger quantities are consolidated, and the final quality often depends upon the care or thoroughness with which the seed is cleaned of shell, bark, etc., and last but not least, dirt.

Aside from removing dirt in the form of sand and other finely divided particles, it is not practical to clean seed in this country. It has to be done by hand, and this labor is too costly in this country. In some of the producing countries, however, the wage scale for women is about seven cents a day, so the expense of cleaning would not be such a costly factor, were it not for the fact that the weight of a lot of seed is reduced in direct proportion to the undesirable content removed.

The accompanying photographs show some of the native scenes of transportation, cleaning, etc. Seed from the interior, in some cases, is carried by burro to concentration points, then by camel train, by rail, and finally by water, before being placed on ocean steamers. It may take as long as two to three months for a lot of seed to reach this country, depending upon the country of origin.

The mucilagenous value of quince seed lies on and under the epidermis. One cannot gauge the value of a lot simply by looking at it. A lot of nice bright clean seed may not be one half as good as another lot from the same section, which latter lot may be quite drab and unattractive in appearance.

It, therefore, is extremely important that a prospective buyer of seed make comparative tests so as to select the lot that will provide the greatest value per dollar expended.

The extraction of the mucilagenous content by water is not complicated, although considerable ingenuity may be employed to remove or filter out the specks and particles present with even the best of the seed.

Some manufacturers of quince seed products must carefully select their material, so as to have a finished

The burro upon whose back is packed the small lots of seed collected at various places

Women arduously working cleaning the seed

product as free as possible from color. In this regard, the content of inert material has an important bearing as also has the temperature of the water during the extraction process. If the water is too hot, too much vegetable dye may be removed from the seed.

Spot stocks of quince seed of good quality have become quite depleted, and additional supplies from new crop will begin to arrive about the end of the year. Prices are firm, with upward tendency. Compared with twelve months ago, prices are about 50% higher, due to increased demand for the article. If foreign collectors of seeds maintain the present price levels, or if prices are still further advanced, the situation undoubtedly will correct itself. High prices encourage increased production. There are plenty of quince trees.

In conclusion, it is stressed again that buyers should carefully test lots of seed before they buy. A "cheap" price rarely represents an economical purchase.

Editor's Note: The author of this article offers our readers consulting advice, free of obligation or cost, on Quince Seed problems.

Food and Drug Personnel Changing

There is a heavy turnover in the personnel of the Department of Agriculture having to do with food and drug law enforcement. The resignation of Solicitor R. W. Williams, to take up ornithological work for the government in Florida has been followed by the return of Dr. A. C. Midthun of the office of Drug Control to the private practice of medicine in Chicago. Dr. Midthun served for a time as assistant to Dr. L. F. Kebler, who had been assigned to co-operative work with the post office department in handling cases involving the alleged use of the mails to defraud. Dr. Midthun had been expected to succeed D. Kebler.

The latter has himself resigned from the Department of Agriculture's food and drug forces, with which he has been connected for many years, to become medical director of the Doctors' Essential Foods Co., Inc., of New York City.

Dr. R. W. Balcom, chemist in the food control division of the Food, Drug & Insecticide Administration, died suddenly.

There are four medical official vacancies in the food and drug forces at the Department. However, Dr. Paul Dunbar, in charge of the Food, Drug and Insecticide Administration, reported that the department was hopeful of finding men to fill the places at a salary of $3,800 a year to begin with. This is not thought to be enough to attract many men of experience.

Department officials are pleased to report that Dr. J. J. Durrett will return to resume charge of drug control work for a time. He went away on furlough September 18, expecting to be gone three or four months. He has spent his time reorganizing his farming operations in Alabama, it is understood. In his absence from the big farm in which he and his family are interested, Dr. Durrett is reported to have lost as much or more money, as a result of inability to give personal attention to agricultural operations, than he has received as salary from the government.

A rumor that it was proposed in responsible official circles that the administration of the food and drug law be transferred from the Department of Agriculture to the Department of Commerce has been nailed on very high authority. The rumor was to the effect that President Hoover favored such transfer. At the White House this was denied.

The rumor went on to the effect that food and drug manufacture and shipment are matters of industry and commerce and therefore should be more properly under the department of government having to do with such matters. On the other hand, however, it was pointed out at the Department of Commerce that Mr. Hoover's policy while head of that department was to seek to have the department divested of regulatory work as far as practicable. As a matter of fact, comparatively little regulatory work is lodged in the Department of Commerce, which is engaged generally on more constructive activities. Food and drug law administration is, of course, regulatory in character, and much regulatory work is carried on by the Department of Agriculture.

So far as the drug trade is concerned, there was reason to believe that it would not object to transfer of food and drug administration to the Commerce Department nearly so much as they would to such transfer to the Department of Justice. However, it was stated that the drug trade would rather have food and drug administration remain with the Department of Agriculture, whose officials have become familiar with the work. It was pointed out that the Department of Commerce is not equipped with laboratory facilities to deal with problems arising under the food and drug law, nor with personnel familiar with such work, unless possibly the laboratories of the Bureau of Standards might be so considered. Of course, any transfer of food and drug administration from the Department of Agriculture would necessitate amendment of the law, which specifically places such administration under that department.

Weicker Sees Lower Camphor Oil

Herman G. Weicker, Vice President of the Dodge & Olcott Co., has returned from an extended trip to Japan, which he had undertaken in connection with his firm's representation in the United States of the Japanese Camphor Oil Industry.

Mr. Weicker conferred with the Japanese Governmental authorities and while he now reports a decided shortage of the different camphor products, he expects that the Dodge & Olcott Co. will receive sufficient quantities of the camphor oils to cover their requirements and that somewhat lower prices may soon rule.

Don't Give Your Profits to Your Distributors*

The experience of many manufacturers who have tried and later abandoned various schemes to promote sales by the mutualization of profits with wholesalers and retailers, leads Professor Copeland to advise strongly against any such action on the part of manufacturers

By Melvin T. Copeland
Harvard University

MUTUALIZATION of Manufacturer's Profits with Distributors" is rather a high-brow name for a variety of schemes which seek to induce special effort on the part of distributors to increase their sales of the products of particular manufacturers. Such plans fall into two general classes: (1) rebate plans, whereby distributors receive rebates, bonuses, or extra discounts at the end of the year, or other specified period of time, as a reward for increasing the sales of particular products; and (2) plans for the sale of stock to distributors. In other words the mutualization of profits under discussion is accomplished by extra discounts or by dividends on stock held by distributors. These two classes of plans fundamentally have much in common, but the differences are great enough to necessitate separate consideration.

The rebate or discount plan has attracted widespread interest. In fact, there is hardly a topic relating to sales promotion that has come up so frequently in my conversations with manufacturers during the last three years. Consequently I have been giving continued attention to it, picking up records of experience wherever possible.

What has been the experience of companies that have tried the rebate plan ?

One company inaugurated a plan in 1920 whereby it paid 2% on the amount by which a wholesaler's purchases exceeded the previous year's purchases of the increase was 25% to 50%; 4% bonus, if increase was 50% to 75%; and 6% if increase was over 75%. Out of 6,500 accounts, 1,274 received bonuses at the end of the year. The sales to customers receiving the reward increased 105%. The sales to customers not earning a bonus decreased 28%. The amount distributed in bonuses under the plan for 1920 was $16,500, slightly less than 1% of the company's sales. Certain other factors outside the plan, such as price changes, affected the results of its operation, however, and it was discontinued at the end of the first year. Wholesalers who did not receive a bonus were disgruntled and the reward was so small in percentage of sales as to have small influence with many customers.

A second company, also a national advertiser, adopted a plan of crediting a discount of 5% off wholesale list prices at the end of the year to the account of each wholesaler, chain store company, or large retail firm whose purchases during the year had amounted to at least $2,500. The company's business prospered and the discount plan was regarded favorably by the company. In 1926, however, a check-up was made of the results, and it was found that for the preceding year, the seventh year of the operation of the plan, a rebate had been earned by only 68 customers out of 1,230 who were eligible to earn it. As a matter of fact the plan had had practically no effect on sales, for the customers that received the rebates would have handled approximately the same quantity

*Address before Annual Convention, Association National Advertisers, October 16

of the company's products, and the rebates were merely "velvet" to them.

A third company, with a large volume of sales to the grocery trade, tried out a rebate plan not long since but gave it up after two years' experience, because it caused friction with some distributors and also because it was too expensive to operate. A fourth company, likewise a national advertiser, has had a somewhat similar plan in operation for several years, and one of the executives told me not long ago that the company would like to give it up, but did not dare to risk the breach.

Manufacturers Follow Lead

Several years ago a tire manufacturer introduced a discount plan whereby a bonus of 1% to 10% was paid at the end of the year to dealers whose purchases had reached certain specified amounts; 1% on net purchases of $1,000 to $2,500, for example, 5% on net purchases of $15,000 to $25,000, and 10% or net purchases over $100,000. Similar plans were adopted soon thereafter by other tire manufacturers, and the industry was practically where it had started. I have no first-hand information from the tire companies, but I judge that the plan has been a burden rather than a help to them. I could cite other cases, but they would be essentially a repetition of the experiences just described.

In brief, in every case where I have been able to secure definite facts regarding the operation of such rebate plans, the results have either been null or adverse. I will not go so far, of course, as to say that none of these plans are or can be successful. I have not been able as yet, however, to secure real evidence of more than very temporary success.

Reasons for Failure

The reasons why so many of these plans have been disappointing in their results are not difficult to comprehend. If the rate of rebate is low, it does not have sufficient weight with the distributors to influence sales. If the incentive to push the line is made large enough to be effective, the cost to the manufacturer is heavy and a sum of money equivalent to the cost of the rebates ordinarily can be used more effectively for other forms of sales promotion and advertising. If such rebates seem likely to be effective in a competitive industry, furthermore, then similar plans may be offered by competitors, and the net results is what amounts to a cut in price. If the rebates are scaled so that only the large customers can secure them, the plan amounts to a price concession to favored customers

With reference to the possible action of competitors in seeking to offset the influence of a rebate plan, the experience of a company selling a widely advertised product to hardware stores is significant. The company abandoned its rebate plan after a short trial because its competitors told the dealers that they (the competitors) would give the dealers an equivalent discount at once instead of asking them to wait till the end of a contract period. An immediate reward or concession is always more tempting than a future bonus.

The advocates of these rebated plans, in my opinion, start with an unsound promise. They expect the distributors to "push" a certain brand of merchandise ahead of competing products, to accord it preferential treatment. In last analysis this really means encouraging substitution. Many a manufacturer who criticizes jobbers and retailers for not "pushing" his product is in effect saying that the distributor who "pushes" his product is a "fine feller", but that if he substitutes the product of some other manufacturer he is a scamp or at least an ingrate.

Only Neutrality Can be Asked

The fact is, I think, that in such competitive industries as drugs, groceries, and hardware, all that a manufacturer fairly can expect from distributors is benevolent neutrality toward particular brands, and that reliance should be placed on effective advertising to consumers rather than on preferential treatment by the distributors for maintaining and increasing sales.

In so far as the dissatisfaction with distributors' services (which it is sought to correct by means of rebate plans) is the result of the general failure of distributors to function effectively as merchants without preferential treatment of particular brands, it is an indictment of the general distributing system as operating at the present time. The causes for dissatisfaction on that general ground go far too deep to be remedied by these more or less superficial rebate and bonus plans.

Stock Sale Kills Independence

When we turn to a consideration of the mutualization of profits with distributors by means of dividends on stock sold to them, it is necessary to differentiate between two distinct types of distribution. A company manufacturing heating equipment, for example, which grants exclusive agencies to selected dealers, may be able to secure greater interest and co-operation on their part by offering them an opportunity to become stockholders in the manufacturing company. That situation is one in which the objective is better merchandising generally on the part of distributors rather than an effort to secure preferential treatment. A possible disadvantage in such an arrangement, it may be pointed out incidentally, is that the manufacturer, who sells stock to distributors under such conditions, sacrifices a certain independence of action with reference to future changes in distribution plans.

In contrast to the above situation is one in which the manufacturer seeks intensive distribution through many retail stores. There the objective of the sale of stock is likely to be to induce preferential action by the distributors.

Several new plans, varying considerably in detail, have been promulgated recently for the sale of securities by manufacturers to distributors. These new plans have not been in operation long enough to enable us to judge of the results.

Don't Depend On Rexall

Of the older plans, there are three to which I wish to refer specifically. The first is the Rexall plan of the United Drug Company, under which the Rexall agents purchased stock in the manufacturing company. I have no first-hand information regarding the Rexall plan, but I judge that it has been thoroughly successful. Too great reliance should not be placed on that precedent, however, by other manufacturers contemplating similar schemes. In the first place, the chaotic price conditions in the drug trade at the time when the Rexall plan was inaugurated gave it an opportunity for a favourable start. In the second place, the adoption of the plan was co-incident, I believe, with the establishment of the manufacturing business; that was quite a different situation from that of a manufacturer with established distribution. In the third place, the stock-holding retailers were granted exclusive agencies, an arrangement not suited to the needs of most drug manufacturers.

The second case to which I wish to call attention is that of the Winchester Company, which adopted a plan in 1919 modeled closely on the Rexall plan. It was so thoroughly unsuccessful that it has been abandoned.

Embarrassment of Passing Dividends

The third case is that of a manufacturer, to be unnamed, who sold preferred stock in his company to retail grocers and proprietors of meat markets. In 1920 the company suffered losses which made it advisable to pass the dividends on the preferred stock but such action was defrayed until the company was threatened with serious embarrassment. It was impeded in carrying out a sound financial policy by apprehension over the possibly adverse effect of passing dividends on stock held by customers on whom it had to rely for sales. The company suffered from making its financial policy subservient to a sales promotion scheme.

During recent months the prevalent stock-market psychology has given an alluring appeal to plans for selling stock to customers as an aid to sales promotion. Presently we shall have another bear market, probably a grizzly bear market. Then some of these plans may take on quite a different aspect.

There are two broad reasons for doubting the basic soundness of these stock selling plans, aside from any relation to the course of the stock market. In the first place, if such a plan is good for one manufacturer, it should be good for many. Suppose, that ten, twenty, or fifty grocery manufacturers were to seek the goodwill of the retail grocer by offering them stock. The idea that the grocers could buy it in large enough amounts to interest them in promoting sales obviously is absurd, and if they could buy in such amounts, the effect of their purchases would be to have them "pushing" various competing brands simultaneously, another *reductio ad absurdam*.

Quite aside from the effects of these stock plans on sales of particular brands of merchandise, there is still another major consideration. When a manufacturer induces his customers to invest their savings in the securities of his company or in enterprises under his management, he morally assumes a position of trust, the obligations of which he may not be able properly to fulfill. It is a serious matter to place one's self in a position of that sort.

The conclusion which I have reached, therefore, from the evidence available, is that most manufacturers cannot gain any appreciable advantage by attempting the mutualization of profits with distributors. It does not commend itself to me as an effective and economic method of sales promotion. In reaching this conclusion I fear that I may seem to have been destructive rather than constructive. I am fully aware, nevertheless, that there are grave obstacles to the smooth distribution of well-advertised merchandise in many retail trades, and that in certain trades the chronic difficulties have been augmented of late by mergers and other special developments. I am sure that effective means will be found eventually for overcoming these obstacles. But in my opinion, the so-called mutulization of profits does not promise to yield the solution.

Sodium Ricinoleate Patent Upheld

Wm. S. Merrell Co. were handed a favorable decision on October 21 by Judge Robert R. Nevin in the District Court of the United States in the Southern District of Ohio, in their suit against the Crocker Fels Co.

The Merrell Co. sued the Crocker Fels Co. to compel them to discontinue the sale of Rixo Gum, marketed by the Rixo Co. of Chicago, claiming that Rixo Gum contained sodium ricinoleate, of which the plaintiff is the owner of the entire right, title and interest in the patent for use in the oral cavity or for dental application.

The decision is an important victory for the Merrell Co. as it serves notice to all retail and wholesale dealers that Rixo Gum or any dentifrice or other product for use in the oral cavity, containing sodium ricinoleate, not owned by the Merrell Co. cannot legally be sold. The Rixo Co. it seems, did not come to the aid of the distributor, in defense.

"Vapex" Stops "Vaporite"

A permanent injunction has been granted Thomas Kerfoot & Co., Ltd. of England, through an action brought in their behalf by E. Fougera & Co., the American distributers for Vapex, against the Allison Drug Stores, Inc., of New York. The American corporation has been restrained from infringements on the trade name "Vapex" and from the use of any name, label, or bottle similar to that used by the English firm in the marketing of its product.

Bonne Bell Co., Cleveland, maker of Bonne Bell cosmetics, has appointed E. N. Decker, Inc., advertising agency of that city, to direct its advertising account.

Scientific Narcotic Needs

THE question of the medicinal and scientific requirements of the United States in the matter of narcotics is discussed in a memorandum submitted by the U. S. Public Health Service to the Federal Narcotics Control Board recently. The memorandum is entitled "Legitimate Requirements of Crude Opium and Coca Leaves in the United States" and bears the signature of Dr. Hugh S. Cumming, Surgeon General of the Public Health Service. The memorandum is as follows:

"The United States Public Health Service has never made any studies dealing exclusively with the subject of the medical and scientific needs of the country respecting opium and coca leaves. While important, the subject has but an indirect bearing on national health and any activities which the Service may take in this regard should be investigative in character and not regulatory. The latter function belongs to the Narcotic Control Board.

"The Public Health Service might contribute supplemental information for the use of the Board, providing Congress authorizes such investigations and provides funds and personnel for meeting, adequately the imposition of an additional function of this character. The present status of appropriations and personnel available to the Service does not permit it to carry on any special investigations of this nature.

"Preliminary to the evolution of a program dealing with this subject, it would seem desirable for the Board to determine what exact information is desired and needed to supplement that already available and being considered. With such a statement it may be possible to find some practical means for gathering the additional and supplemental information required. For example, it might be feasible to get together a group of persons representing National organizations and Federal agencies for the purpose of discussing ways and means for obtaining any necessary additional or supplemental information that would be useful to the Board.

"A few of the National Organizations that may be interested follows:

American Medical Association.
American Pharmaceutical Association.
American Dental Association.
American Tuberculosis Association.
American Hospital Association.
American Society for the Control of Cancer.
The National Catholic Hospital Association.
The National Medical Association (Colored).
The American College of Surgeons.
The American College of Physicians.
National Association of Retail Druggists.
American Veterinarian Medical Association.

"Among the Federal agencies that might be interested to participate are the following:

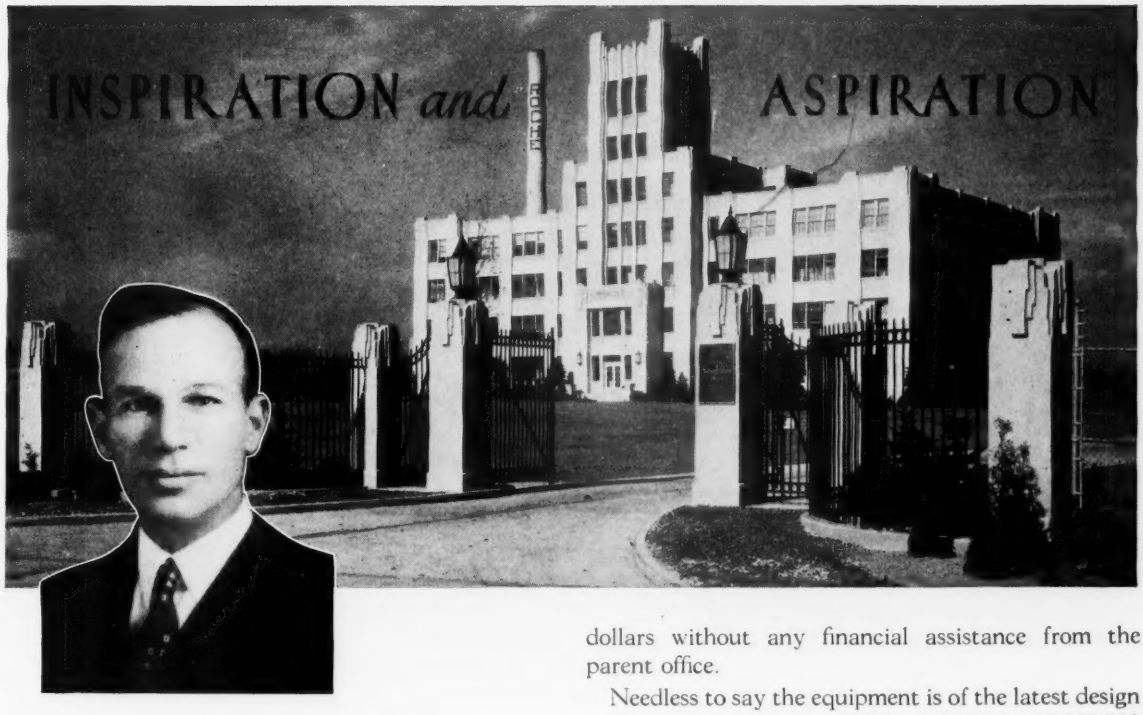
U. S. Public Health Service.
Office of the Deputy Commissioner of Prohibition (Narcotics).
Food, Drug and Insecticide Administration, Department of Agriculture.
Surgeon General's Office, Department of War.
Bureau of Medicine and Surgery, Navy Department.
National Research Council.
Customs Service (Technical).

"Other organizations such as some of the larger endowed foundations, insurance companies and manufacturers engaged in alkaloid extraction may be interested also.

"Preliminary to a meeting of the representatives of these organizations a careful statement should be prepared, setting forth what information the Federal Narcotic Board Control requires, so that each representative could have ample time to prepare a program setting out the opinions of his organization whereby the required information might be obtained. It is probable that such a conference would be able to devise some continued plan of useful study. It is possible that a fact-finding committee might evolve from such a conference and prove a source of value in the future work of the Board.

"The Public Health Service has no definite program to offer in helping to determine the opium and cocaine needs of the country. It is assumed, however, that there are many and various ways of approaching estimates of the quantities of drugs required. One method of approaching the "Narcotic drug requirements" might be through a study of the morbidity and mortality incidence in the general population, with particular reference to endemic and epidemic diseases. Studies of the expectancy with reference to the incidence of painful and incurable illnesses; to surgical operations of different kinds; and to accidents might be of value, although difficult if not impracticable to obtain.

"On the other hand, it might be useful to study through professional and technical observers the opium and cocaine requirements of a group of hospitals dealing with different types of illnesses, several dental infirmaries and the private practitioner, including the veterinarian. Information thus gained might be useful in arriving at an estimate through the experiences of a representative group. A study of this character might also result in a more tangible estimation of the professional and personal equation involved in the consumption or use of narcotic drugs. The feasibility and necessity for the continuance of a study of this kind might be determined after adequate trial."



ON a hilltop overlooking Nutley, N. J., there has arisen during the last year a noble white building, modernistic in its architectural design, almost futuristic in the completeness and perfection of its design and equipment for the manufacture of fine pharmaceutical specialities.

The thought that planned this building, the ambition that completed it, were summed up the other day by the man who built it when he said: "We had no thought of rivalry or of display in this new building of ours, but we wanted the American plant of the Hoffman-LaRoche Chemical Works to stand as representative of America among the plants of our organization all over the world. We have built as finely as we knew how, not only as a symbol of the great science which controls all of our manufacturing operations, but also because we wanted our people here to be proud and happy in their work-place".

The building typifies the inspiration of a great world-wide organization and the aspiration of an able executive.

Over 500 research chemists working in laboratories in England, France, Germany, Italy, Poland, Russia, and Japan, and a new one now building in China represents visibly the extent of the LaRoche organization. The accomplishment of Elmer H. Bobst, as American manager, may be perhaps most vividly set forth by remembering since 1920 when he assumed control, the American branch has wiped out a deficit of half a million dollars, carried on all of its operations, and built this new building at a cost of one million dollars without any financial assistance from the parent office.

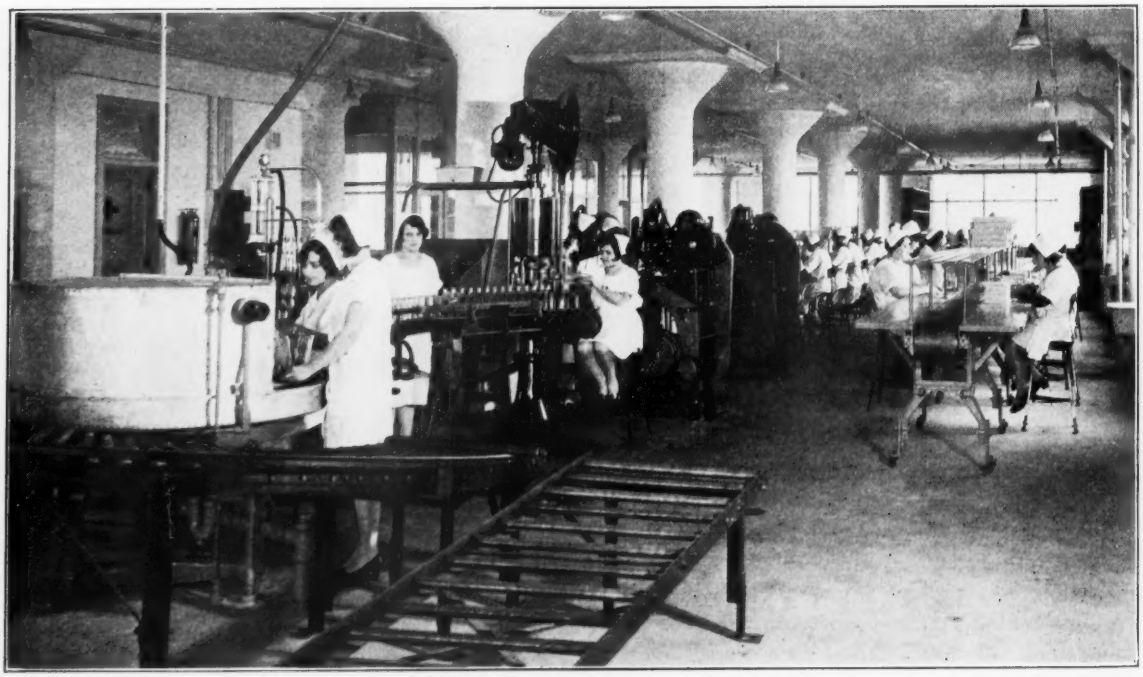
Needless to say the equipment is of the latest design and as automatic as possible to satisfy the $3,000,000 annual consumer demand for "Allonal", as well to satisfy the heavy demands for other specialties such as "Digelan", "Elixir of Allurate", and "Syrup of Triocol". Protection for narcotics, alcohol, and metallic sodium are anticipated and found as are marked evidences of cleanliness and convenience.

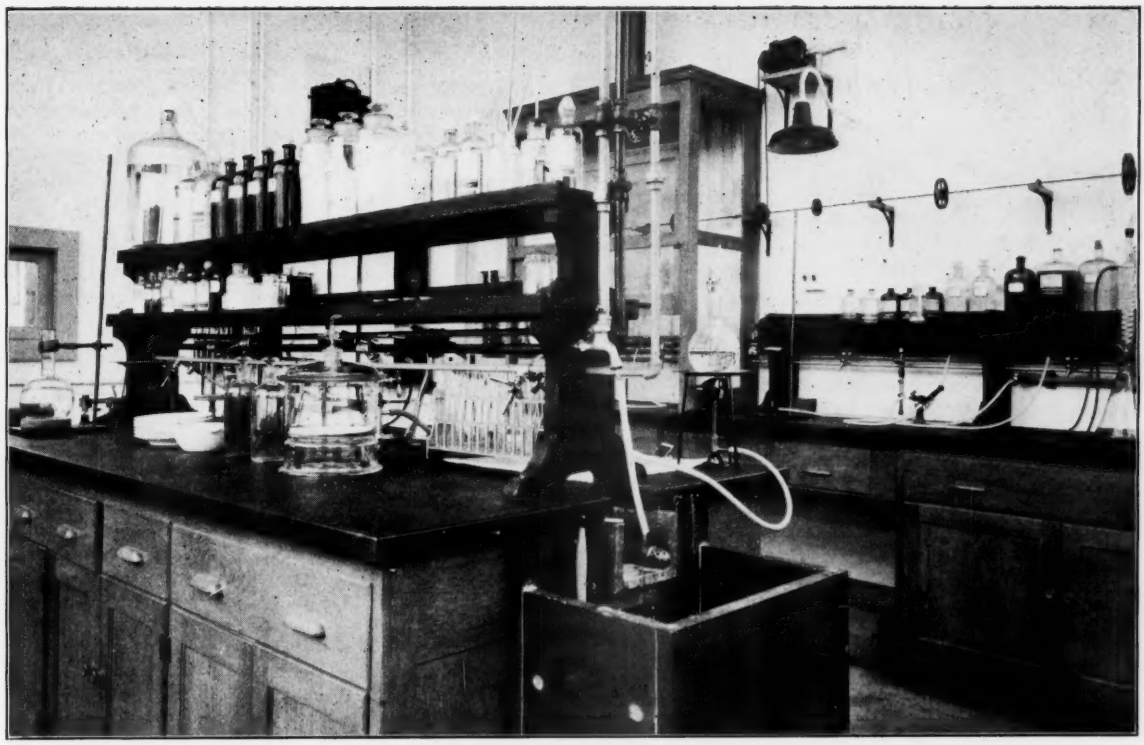
The photographs on the following two pages may well serve as a model for design and construction of a modern plant devoted to the production of fine chemical and pharmaceutical specialities.

The private offices of the general director's suite is finished in Georgian panels of crotch walnut, and is furnished in walnut of the Early American period.

Above is shown the "Roche" library panelled in walnut and finished after the manner of the Queene Anne period. Here are to be found not only the latest volumes on materia medica, therapeutics, and the practice of medicine, but also works on chemistry, bio-chemistry, and biology.

Below is the part of the plant in which 20,000 bottles of Syrup of Thiocol and of Elixir Alurate travel their daily course upon which they are automatically filled, capped, labelled, finished and packed. Crates of bottles may be seen coming up on the lowerater, from whence they travel to a washing machine and thence to filling machine.





Above is shown one of the group of analytical, pharmacological and physiological laboratories situated on the roof of the "Roche" plant, and equipped with the most modern facilities for research in all branches of medical science. The laboratories are plentifully supplied with light and fresh air, and are particularly free from dust at all times.

In this part of the "Roche" plant is produced "Allonal", the famous "Roche" hypnotic. The amount of equipment shown for production of this product is said to be sufficient to produce "Allonal" enough to put all the sufferers of the world to sleep.

{ *Patents Issued* }

UNITED STATES PATENTS

Deodorant Composition

The basic ingredient of the composition which is specially designed for preventing the formation of malodorous or cutaneously irritating compounds is baker's yeast. Any ferment can be used, which produces a favorable fermentation of a non-disagreeable character. The composition is used to counteract functional discharges of the body such as perspiration, menstrual flow, urine and fecal matter, damp excretions and the like. When live yeast is applied to such discharges or to the parts of the body where such discharges accumulate, the fermentation set up by the yeast prevents the formation of bad odors and cutaneously irritating compounds. This is claimed to be due to the greater vitality of the yeast fermentation than that of putrefaction.

The anti-putrescent and anti-irritating effect of yeast is especially suitable for the catamenial discharge. This is accomplished by applying a moderate amount of the ferment to the fresh napkin. It is harmless and may be used on any parts of the skin or membranes.

Yeast odor is however objectionable to be suitable for personal use. The odor of the yeast can however be completely masked by suitable perfuming. Rose water is suitable for this purpose, a small quantity of the water being sufficient to give the yeast a mild and agreeable scent. For light application a suspension of yeast in a perfumed liquid is satisfactory. The paste is highly active and can also be used. The yeast preparation may also be used in the powdered form. A scented powder may be added to the powdered yeast. G. T. Southgate, Forest Hills, N. Y. U. S. Patent No. 1,927,752, filed Feb. 23, 1926.

U. S. Patents—Benzoic Acid

A new process for benzoic acid manufacture depends on use of solution of a metallic acid phthalate in presence of heavy metal salts capable of forming phthalates. Solution of metal acid phthalate is heated in presence of the latter salts to a temperature between 150° and 300° C. These heavy metal salts are also capable of splitting off carbon dioxide from phthalic acid. H. W. Daudt, Penns Grove, N. J., assignor, E. I. duPont de Nemours Co., Wilmington, Del. Patent No. 1,712,753, filed Jan. 23, 1924.

Withdrawing Contents of Ampules

The ampule and syringe coupling is provided with a syringe receiving pocket and means associated with the socket for supporting an ampule in position to be emptied into the syringe. Means are carried by the coupling for straining the contents of the ampule. G. N. Hein, assignor, Neutype Instrument Bo., San Francisco. U. S. Patent No. 1,728,965, filed Nov. 17, 1924.

Water Ointments

Water ointments are made by preparing fungus culture and mixing it with gum tragacanth and glycerin solution. The mixture is then heated to the boiling point whereby an ointment sufficiently unctuous for ready application is obtained. F. Merz, Frankfort-on-Main, Germany. U. S. Patent No. 1,732,105, filed Sept. 28, 1926.

Mercuric Cyanide Tartrate

A new medicinal product consisting of mercuric oxycyanide combined with a tartaric acid. M. Miyahara, Kobe, Japan. U. S. Patent No. 1,732,106, filed June 4, 1928.

BRITISH PATENTS

Collapsible Tubes or Containers

Collapsible tubes or containers are made of transparent flexible material, so that color of contents may be seen. Any material made of cellulose, such as celluloid, or cellophane, may do. The tubes may be formed by cutting pieces from a long tube, or by rolling plates of the material over a mandrel, and sticking the edges of the plate together. The tube body may be closed at both ends by means of metal strips, or may have at one end an outlet part provided with a screw cap. The outlet end of the tube may be closed by means of a cork. S. Boruss, Budapest, Hungary. B. P. No. 310,976, filed May 4, 1929.

Synthetic Drugs

Methyl xanthines are caused to combine with alkaline earth nitrites whereby double compounds are obtained possessing better water solubility than the original xanthines. In the case of caffeine the free base is employed, but with theobromine and theophylline the alkaline earth salts are used. The base or salt is dissolved in the nitrite solution and the mixture evaporated down. In the case of theobromine and theophylline the free bases may be dissolved in the nitrite solution containing an alkaline earth hydroxide. The preparation is described of double compounds of caffeine with calcium nitrite and with barium nitrite, the calcium salt of theobromine or theophylline with calcium nitrite, and the strontium salt of theophylline with strontium nitrite. H. P. Kaufmann, Jena, Germany. B. P. No. 311,231, filed May 2, 1929.

Synthetic Drugs

Arylazo-alpha-alpha-diaminopyridine monohydrochlorides are prepared by two processes. In the first diazotized aniline or its homologues or alkyloxy derivatives are coupled with alpha-alpha-diaminopyridine in the presence of a small quantity of mineral or organic acid, the resulting (alpha)-alpha-monoaminopyridine thus obtained being treated with water or an aromatic amine. In the second process diazotized aniline or its homologues or alkyloxy derivatives are coupled with alpha-alpha-diaminopyridine in hydrochloric acid solution and the arylazo-alpha-alpha-diaminopyridine dihydrochloride obtained is converted into the monohydrochloride by means of water. The products that are obtained in this fashion possess bactericidal properties. The patent contains a detailed description of the preparation of phenyldiazoamino (alpha)-alpha-monoaminopyridine from aniline and alpha-alpha-diaminopyridine, of phenylazo-alpha-alpha-diaminopyridine monohydrochloride from aniline and of preparations in which toluidine (para) is employed as well. Pyridium Corp., New York. B. P. No. 311,349, filed Nov. 20, 1927.

Synthetic Drugs

Salts of para-aminophenylsthininic acid are prepared by causing the acid to combine with a secondary amine. The products, which are stable, are useful therapeutically. Examples are given of the preparation of the diethylamine and piperazine salts of the stibinic acid, the latter being obtained by splitting off the acetyl radicle from para-acetylaminophenylstibinic acid. I. G. Farbenindustrie A. G., Frankfort-on-Rhine, Germany. B. P. No. 311,448, filed Feb. 11, 1928.

Organo Antimony Compounds

Aqueous solutions of salts of organo-stibinic acids which tend to become cloudy on standing are rendered stable by the addition of a polyvalent alcohol, such as glycerin, cane sugar and glucose. Thus sodium meta-chloro-para-acetyl-aminophenyl-stibinate is mixed with glucose and dissolved in water. The solution remains clear for a prolonged period. I. G. Farbenindustrie A. G., Frankfort-on-Main, Germany. B. P. No. 311,748, filed Feb. 15, 1928.

Storing Valerian Root in a Barn

Office of G. C. F. Techow in Hamburg

Why Some Crude Drugs Are At Bargain Prices

The tightness of money in Central Europe was the direct cause of curtailment of activities during the collection season. Now with the season closed, there is not a full year's supply of many items in existence.

THE extreme tightness of money conditions in Central Europe has caused a condition in the market for crude drugs that will most likely result in sharply advancing prices toward the end of the coming Winter and advent of Spring.

The reason for this condition lies in the fact that it has been impossible for the large buyers of drugs in these countries to finance stocks of ordinary size. In former years, the dealers and exporters in those countries have bought the drugs and herbs as they were brought in by the gatherers. Naturally these gatherers work from day to day and must be paid immediately for their labors or they turn their efforts elsewhere. The gatherers themselves can not hold any stocks.

Due to the fact that the dealers and exporters, who ordinarily have long credit terms extended to them at the banks—are unable to secure any money with which to pay these gatherers, they are forced to stock only to the limit of their own capital. The gatherers, on the other hand, when they find that they can not sell the goods that they have already gathered, lower the prices for the goods they have to offer with the result that prices all along the line are at bottom.

Dealers who have taken on supplies at normal prices would like to take on some of the lower priced material but they can not do so if they are unable to sell and thus relieve the strain on their resources.

When it is realized that the season for collecting such drugs as digitalis are limited by the government to the period of two and one-half months from July 1 to September 15, it will be appreciated what will happen to the size of the year's supplies gathered under these conditions. This means that digitalis will be gathered only to the limit that the available cash of the dealers on the ground will go. If they can not move the goods immediately or secure credit from the banks on the goods in warehouse, then they must stop buying and the collectors must stop collecting.

This will mean that the quantities of many of these drugs will not be of sufficient size to satisfy a normal consuming demand of one year duration. And it will mean that by next Spring at the latest prices of many of these items will be high because there will be a marked scarcity of the drugs with none forthcoming for some months ahead.

While the money situation has been relieved to some extent and is certain to be relieved further by the sharp deflation in common stocks and the consequent drop in demand for call money at 9 and 10% to hold them, it is certain that this relief is too late to change the size of the year's supplies of some drugs.

The collection season permitted in Germany for digitalis is never extended past October 1, and the slight credit relief that is now being felt in this country did not make its appearance here until late October. Even in this country the situation will not be normal until call money is priced around 2 to 3%, and there will naturally be much delay in the full effects of this condition making their way into Europe.

The low prices at which drugs have been offered for shipment have led many consumers to the thought that the weakness came from over-supplies. Such is not the case. The low prices came from the inability of the foreign dealers to finance their stocks and the offering of goods from collectors who were willing to take less than the goods normally are worth. Naturally under the pressure of these lower offers, dealers were anxious to dispose of at least part of their present stocks so that they could take on the lower priced material which was being offered to their competitors. From these facts it can be seen that although the market was weak, it was not due to what might properly be termed over supplies. And in fact the real future of the situation makes this break a most attractive time to cover requirements against a scarcity that is almost certain to develop.

Non-Soluble Glass for Biologicals

Non-soluble glass, developed after years of research and experimental work at tremendous cost, has now reached a state of perfection never before attained. Its popularity in the laboratory in general is rapidly increasing, and its use for the packaging of certain medicinals has become absolutely essential.

Fragility, looks, and possible reaction, are three of the essentials to be considered in purchasing laboratory glassware.

Breakage is an item of utmost importance, especially in hot air sterilization. One of the principal laboratories of the city reported that breakage in sterilization, when the ordinary lime glass was used, often ran as high as 60%, and that the bottles used looked particularly good before being placed in the sterilizer. This prohibitive percentage of loss vanished almost completely when non-soluble glass was used, due entirely to its great tensile strength. Although the initial cost price of this type of glass is three to four times more than for ordinary glass, the amount of money saved in breakage often offsets what at first might appear a disadvantage.

Perhaps the most scientific reason for the development of this form of glass is the packaging and handling of biological products. Non-soluble glass is alkali proof and herein lies its great usefulness.

To test the alkalinity and non-soluble qualities of this type of glass, Dr. Krunweidee, of the New York City Health Laboratories, subjected it to a most rigid test. The glass was first ground until it was a fine powder. Distilled water was then added and it was boiled for twenty minutes. Phenolphthalein was then added and the glass rejected if anything greater than a faint red showed. The fact that a large percentage of the glassware now used in the city laboratories is of this grade proves conclusively the success of these experiments.

Biologicals have been classified as robust or fragile according to their susceptibility to alkali in glass. Anti-toxins in general are not affected by moderate alkalinity. However, diphtheria toxin, toxin anti-toxin, and vaccine virus, are particularly susceptible to poor glass. Where serums are administered intravenously they must be as nearly alkali free as it is scientifically possible to produce them. Dissolved glass, or alkali, administered directly into the blood of a patient will produce chills and fevers and has been known to make the vaccine useless to perform its intended function.

To illustrate the seriousness of flaked glass in solution; during the last diphtheria epidemic a laboratory in one of the large cities sent out ampules of diphtheria anti-toxin, lime glass being used in the manufacture of the ampules. This was administered by physicians over a considerable period of time. An exceptionally large number of immunity reports being received and immunization certificates issued, the matter was finally thoroughly investigated with the result that glass was found in solution in the serum rendering it ineffective. It then became necessary to send out a general letter to all physicians who used the serum to the effect that all innoculations from a certain date would have to be done over again as the serum used was defective. As this had been going on for some time the seriousness of the situation can readily be realized. The laboratory in question has since adopted non-soluble glass ampules which has definitely eliminated the possibility of a recurrence of this trouble.

Non-soluble glass does not shale or become cloudy or etched so that its usefulness in the laboratory, where it can be sterilized and used over again and again is one of the great factors in its increasing popularity. With its increased use the price factor will undoubtedly moderate until this form of glass will be used exclusively for all technical purposes.

Patch Broadcasts to Consumer

E. L. Patch Co., Stoneham, Mass., have started to advertise their Flavored Cod Liver Oil direct to the consumer, the first step being by means of radio broadcasting. A program of twenty-six weekly broadcastings every Wednesday morning at 10.45 over the red net work of the National Broadcasting Co. has been inaugurated. The programs are educational in nature, being semi-musical.

While the broadcasting is the first step in an effort to stimulate retail sales of Patch's Cod Liver Oil, it indicates no change of the present policy of co-operation with the medical profession. The undertaking is described by Batten, Barton, Durstine & Osborn, advertising agents handling the account, as "supplementary to the work which Patch has always done and will continue to do with physicians throughout the country".

Ergot Pharmacology*

By Marvin R. Thompson

Assistant Pharmacologist, Food, Drug and Insecticide Administration

DURING the past fifty years a vast amount of experimental work has been reported upon the pharmacological and clinical properties of ergot of rye. As a drug it is comparatively well known, having been used in medicine for a great many years, principally as a parturient or parturifacient in the treatment of post-partum hemorrhage, because of its specificity in producing contraction of the uterus, especially in the gravid state.

In spite of the fact that the drug has been found to be highly specific in its physiological and clinical reactions, in recent years it has fallen into more or less disrepute as a medicinal agent, largely because of certain inconsistencies and irregularities arising from its use. Posterior pituitary substance has been found to possess similar clinical properties with a less uncertainty in connection with its therapy, and has, therefore, threatened to replace ergot, especially in obstetrics.

Mr. Thompson's important investigations into Ergot Pharmacology, which have been conducted over a two-year period, appear to shed great light on the problem surrounding the uncertainty of ergot preparations. The paper reporting these investigations have been divided into several parts.

From the amount of ergot imported and used in this country alone in recent years, however, it is clearly evident that this drug still occupies an important place in medicine as a partuient and also as an emmenagogue. Since no substitutes have supplanted its use in therapeutics, it is obvious that the valuable and important properties of the drug still receive recognition.

Because of this evident value of ergot in medicine, and the highly specific nature of the drug as shown in clinical and pharmacological studies, the unsuccessful use of the drug in most instances is believed to be due to lack of knowledge concerning the preparations used, and the inconsistencies in reactions exhibited by its galenicals may be logically ascribed to one or more of the following factors: 1st, that individual samples of the crude drug are inconsistent in regard to the amount or proportion of active principles contained therein; 2nd, that the processes involved in the preparation of its galenicals are faulty in that they do not always uniformly extract the specific active principle or principles; 3rd, that the methods used for the standardization or adjustment of potency do not accurately measure the clinically active constituents; 4th, that one or more of the active principles may seriously interfere with the clinical effect of the others, or interfere in the measurement of potency by the currently used bio-assay methods; 5th, that the medicinally valuable principles are of such an unstable nature that they do not appear in the preparations in defined amount by the time they are administered to the patient due to deterioration of the active agents.

In an attempt to determine which of these factors are responsible for the clinical and pharmacological inconsistencies or irregularities, the author has conducted an intensive investigation of the pharmacological properties of ergot of rye during the past two years. The results of these experiments, it is believed, explain many of the currently existing disagreements among clinicians and pharmacologists regarding the nature of its reactions.

In reviewing the earlier literature upon ergot, one encounters such a long series of conflicting results and differences of opinion that the subject is truly bewildering, particularly that dealing with the active principles found in the drug, and the chemical nature and pharmaco-dynamic activity ascribed thereto.

During the past 25 years, several investigators have greatly overcome the previously existing chaos by a re-interpretation of the earlier results of others, which was made possible only by intensive research. Barger and Dale (6), in 1907, published a remarkably enlightening interpretation of earlier literature upon the constituents of ergot together with their own observations, which, together with more recent work, quite definitely established that the specific active constituents of

*Delivered at American Pharmaceutical Association Meeting, Rapid City, August 1929.

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ergot were alkaloidal in nature. Very recently Barger (35) published the History of Ergot, an excellent review of the status at present. Since the isolation of these alkaloids in Europe by Tanret, Barger and Stoll, a great deal of information regarding the chemical and physiological nature of these alkaloids has been made available by these as well as other investigators. The different names which have been applied to these alkaloids, and also the conflicting reports concerning the pharmaco-dynamic activity of these various constituents and ergot galenicals have rendered the literature very confusing owing perhaps to results obtained from impure mixtures of the constituents and the great variations exhibited in the response of the various animals and methods used in pharmacological studies.

The Physiologically Active Constituents of Ergot

The constituents of ergot which are responsible for the pharmaco-dynamic activity of its preparations may be conveniently divided into two groups, 1st, a series of alkaloids, and 2nd, a series of amines or amino bases. The crude drug contains appreciable quantities of a fixed oil, varying from 10 to 30 per cent., in addition to a coloring principle commonly known as sclererythrin.

The identity of these active constituents, with the chemical and pharmacological natures thereof, have been the subjects of intensive research for over a hundred years, and much remains to be done before even the more recent evidence set forth will be universally accepted as knowledge among the scientific investigators interested in ergot. However—although many phases remain disputed or unknown—all of the work has not been in vain.

At the present time it seems generally agreed that the alkaloids are the specific constituents responsible for the clinical activity of the drug (1). At least four different alkaloids have been identified with the drug, but the activity is believed to be due to but two, ertotoxine (3) and ergotamine (5). The other two, ergotinine (2) and ergotaminine (5) have been found to be relatively inactive by Kobert (7) and Spiro (5), respectively. The hydro-ergotinine of Kraft (4) has been shown to be identical with ergotoxine (6). Ergotoxine and ergotamine are active both orally and hypodermically.

It is further agreed that the proteinogenous amines identified with ergot are not responsible for the desirable clinical effects of ergot preparations. Indeed, they are regarded as being non-specific for the drug since they do not always occur in freshly collected material. Spiro and Stoll (5) and Stoll and Rothlin (9) have found their presence inconstant. The most important of these non-specific amines are histamine, tyramine, acetyl-, and possibly other cholines, histamine being of the greater importance because of its greater activity and occurrence (1). Their activity by oral administration is doubtful (14).

The literature concerning the pharmaco-dynamic activity and chemical natures of all of these constituents has been reviewed by several investigators. A repetition is not necessary here. Reference is made to the reports of Barger and Dale (6), Broom and Clark (13), Clark and Broom (19), Edmunds and Hale (30), Forst and Weese (16), and the more recent work of Nelson and Pattee (1), Mendez (33), Rothlin (31) and Barger (35).

From all of this available experimental evidence it becomes readily apparent that any ergot preparation, in order to be of value for the purpose intended, *must contain significant amounts of the specific ergot alkaloids*, in a reasonably stable condition, and further, that these alkaloids must be present in defined amounts to make intelligent dosage possible. These requirements can be fulfilled only by the proper selection of methods of extraction and preparation and by employing a method for either chemical or biological standardization which will accurately estimate the alkaloidal content or physiological activity of the galenical.

The Preparations of Ergot Available to the Physician

At the present time, aside from innumerable proprietary preparations of ergot on the market, there exist two distinct types of ergot galenicals which have been accorded official recognition. The National Formulary, 5th Revision, hereafter called the N. F., recognizes a semi-solid extract prepared by extracting the drug with a chloroform water menstruum, with subsequent removal of supposedly inert material by precipitation with alcohol and evaporation of the excess menstruum at a moderate temperature. It has been designated as **Extractum Ergotae Aquosum** and is not required to be standardized in any way. In the trade it is commonly known as "ergotin" and is intended for oral administration. The U. S. Pharmacopoeia, 10th Revision, hereafter called the U. S. P., recognizes "Fluidextract of Ergot", prepared by extraction of the drug with an acid-hydro-alcoholic menstruum. It is required by the U. S. P. to be physiologically standardized by the Cock's Comb Method therein described. It is suitable for oral administration only because of its acid and alcohol content and the presence of active and inert ingredients other than the specific ergot alkaloids.

The Methods Employed in the Assay and Standardization of Ergot Preparations

Because of the complex chemical nature and the enormous differences in the physiological activity and potency of the active constituents of ergot and its preparations, it has been found impossible to accurately assay or standardize these preparations by chemical methods. Biological methods only can be depended upon to measure and standardize their

activity. Of the numerous biological methods which have been proposed only a few are conceded to be of value as assay methods and none of these are universally accepted. These methods, in the order of their usage or currently conceded value, are as follows:

1. The Cock's Comb Method, outlined and at present official in the U. S. P. Details of the method were published in 1927 by Gittinger and Munch (15) and in 1928 by Pattee and Nelson (28). It is reputed to measure the specific alkaloid activity of the ergot preparation.

2. The Isolated Rabbit Uterus Method of Broom and Clark (13), and modifications (28), in which the strength of an ergot preparation is determined by the ability of the alkaloids to decrease the response of the isolated uterus of the rabbit to constant doses of epinephrine. It measures the specific alkaloidal activity of the preparations. The same principle has been applied to other tissues by Pianelles (32), Rothlin (31) and others, with no particular advantages as applied to bio-assay adaptability, but of very great value in studies of the nature of ergot activity.

3. The Guinea-Pig or Cat Uterus (excised and *in situ*) Methods. These methods have been found to be of little value for ergot bio-assay purposes, because they measure the resultant effect of both the non-specific amines and the specific alkaloids (13).

4. The Pressor Methods to Cats or Dogs (13, 14, 26). These methods, though exceedingly meritorious in qualitative studies, are open to serious objections as bio-assay methods for ergot preparations because they, too, measure the resultant effect of both the amines and the alkaloids of ergot. Animal variation is also too great to permit of accurate quantitative information.

Thus, methods Nos. 1 and 2 are universally regarded as being the most accurate in estimating the clinical or specific alkaloidal activity of ergot preparations. Both have disadvantages but, in comparative studies using both methods, they have been found to yield practically identical results by Pattee and Nelson (28). Swanson (34), still more recently, reported similar results. Broom and Clark (13), Pattee and Nelson (28) and Swanson (34) agree that the rabbit uterus method affords somewhat greater precision than the Cock's Comb Method but that the former is more difficult of technique and therefore requires more experience in the use of the method.

In spite of the fact that these investigators have found these two methods to be reasonably accurate in estimating the specific alkaloidal activity of ergot preparations, the situation regarding available ergot preparations is far from being acceptable. In connection with his work in this laboratory, the author has examined by these two and other methods some hundreds of these preparations, prepared and distributed by the pharmaceutical manufacturers in both this country and abroad. This survey has revealed that statements of physiological potency and standardization upon their labels are, in fact, practically without meaning. Only a comparative few of the ampul preparations have been found to contain any alkaloidal activity whatever. The potency of the most important preparation of all, Fluidextract of Ergot, was found to vary from total inactivity up to as high as five times that specified by the U. S. P. and, to increase the gravity of the situation, the number not complying with the U. S. P. requirements was found to be vastly greater than the number of those which did. Strange to say, more were found to exceed the U. S. P. potency requirement than otherwise. A tabulation of the results of this survey will be published at a later date. The deplorable condition surrounding ergot cannot be attributed to the crude drug since none is admitted entry into this country unless it meets the U. S. P. requirements regarding potency, in addition to complying with the pharmcognostic specifications. Obviously then, one or more of but three factors could be held responsible for the non-uniformity now existing; the unstable nature of the specific ergot alkaloids in the preparation (9), faulty extraction technique in manufacture, or, the possibility that the methods used in the biological assay and standardization of these galenicals are not accurate in all instances.

An attempt to clarify the present turbid situation has been the purpose of this investigation. Intensive studies involving the stability, nature and standardization of the various types of ergot preparations by the methods, enumerated have been carried out, the results of which will be found in subsequent reports.

Summary of Investigations

The following summarizes the results of the investigations:

1. The alkaloids of ergot produce bluing of the comb and wattles of cockerels, the intensity being proportional to dosage.

2. Histamine, and mixtures of the non-specific amines of ergot, produce in the absence of ergot alkaloids, a similar bluing, which is also proportional to dosage.

3. The addition of certain proportions of the amines of ergot to the alkaloids of ergot decreases the apparent potency as shown by the Cock's Comb Method. Assays by the Cock's Comb Method yield results which are too low in the case of freshly prepared fluid extracts high in amine content. After the amines are removed, the Cock's Comb test is thoroughly reliable and reasonably accurate in measuring the alkaloidal activity.

4. It is believed that histamine causes the greatest amount of interference. This amine, together with other amines and water-soluble principals, if present in sufficient quantities, as was found possible, will interfere with the assay of the ergot alkaloids by the Cock's Comb, Pressor, Guinea-Pig or Cat Uterus, or the original Broom and Clark Isolated Rabbit Uterus Methods.

5. A modification of the original Broom and Clark Method was found to yield results which were least influenced by these water-soluble amines.

6. A method has been devised which will detect and accurately measure the amine content of ergot preparations.

7. A method has been devised for the chemical removal of these interfering amines, thereby making possible an accurate estimation of the alkaloidal potency by any of the accepted bio-assay methods.

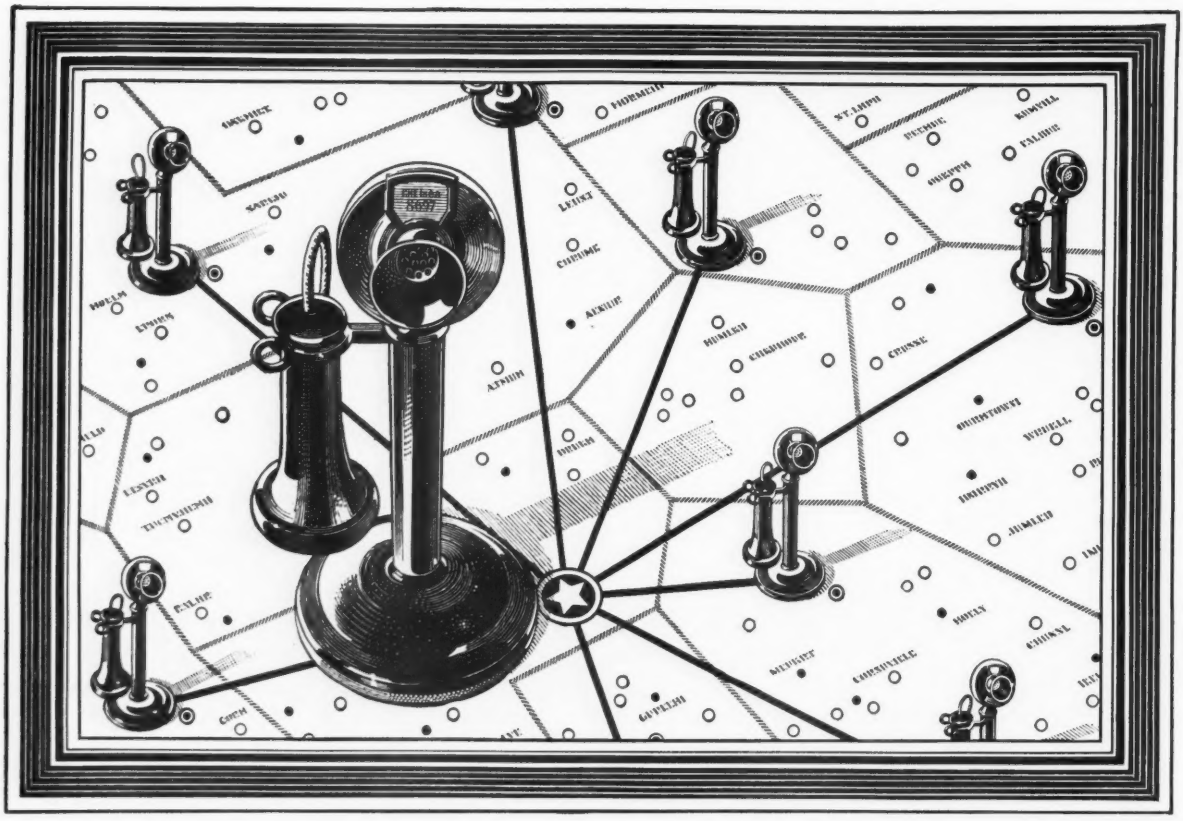
8. Extraction of powdered ergot with an aqueous menstruum removes principally amines and does not extract significant amounts of the active alkaloids. **Extractum Ergotal Aquosum** N. F. V. and similar aqueous preparations, owe their activity to amines and are practically devoid of ergot alkaloids.

9. Extraction of powdered ergot with an acid hydro-alcoholide menstruum as in the U. S. P. fluidextract removes all of the amines and the alkaloids.

10. The amines were found to be less stable than the alkaloids in the menstruum of the U. S. P. fluidextract. The rapid amine

(*Continued on page 479*)

Cover your Sales areas by Telephone... the Key Town plan



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The Bell System has prepared national and regional Key Town maps suggesting convenient centers for reaching the entire country by telephone.

Sequence lists filed with the operator in advance enable calls to be put up quickly, one after another.

Classified telephone directories help in developing prospects and new outlets.

The credit plan used in connection with the Key Town plan obviates carrying cash for telephoning and keeps a detailed record of the calls.

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AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — BELL SYSTEM

The Financial Markets

Lambert Earns More

Lambert Co. reports for quarter ended September 30, 1929, consolidated net profit of $1,751,159 after taxes, based on 95.8% present ownership of stock of the Lambert Pharmacal Co. This is equivalent to $2.50 a share on 698,996 no-par shares of capital stock now outstanding. On a similar basis, consoldiated net profit for the preceding quarter was $1,456,924 equal to $2.08 a share on the number of shares now outstanding and $1,548,244 or $2.21 a share in September quarter of 1928.

Consolidated net profit for nine months ended September 30, 1929, amounted to $5,446,382 after taxes, equivalent to $7.79 a share, comparing with $4,587,555 or $6.56 a share on a smilar basis in first nine months of previous year.

Monroe Chemical Co. has purchased for cash the business and certain assets of Mary T. Goldman Co. of St. Paul, which has for a period of over 30 years been engaged in manufacturing and selling hair preparations under the nationally advertised "Mary T. Goldman" trade name. Net earnings of the business, after eliminating certain non-recurring charges, have averaged in excess of $125,000 for the past three years.

Palmolive Food Merger

International Quality Products Corp. is the name of the new food and drug holding company which will control the Hershey Chocolate Co., Kraft-Phenix Cheese Corp. and the Colgate-Palmolive-Peet Corp.

Charles S. Pearce, president of the Colgate Co., will be president, and J. L. Kraft, chairman of the Kraft-Phenix Co. will be a director according to reports from Chicago.

Mr. Pearce said the new company would have capital and surplus of more than $150,000,000, and would exchange its shares for the stock of its subsidiaries. There will be no physical consolidation of the three companies. Economies in distribution will be worked out. It is expected that a public offering of stock will be made by the National City Co., and that offers for the exchange of stock for the shares of several other food companies may be made soon.

Zonite Finances Forhan

Zonite Products Co. offer $5,250,000 in cash and 175,000 shares of Zonite stock for the Forhan Co. This is equivalent to $17.50 a share in cash and 7-12 share of Zonite stock on the Class A and common stock of the Forhan Co.

Forhan Class A and common stockholders are offered two alternative plans; they may elect to receive $35 a share in cash for their holdings, or they may elect to receive one and one-sixth shares of Zonite for each Forhan share. Unless preference for either of these two alternatives is expressed within five days after approval of plan by stockholders at the October 31 meeting, payment will be made at the rate of $17.50 cash and 7-12 share of Zonite.

American Commercial Alochol Corp. report a net profit for the quarter ended Sept. 30 of $369,807, after Federal taxes and all other charges, equal to $1.05 a share on common after preferred dividends. For the nine months ended on Sept. 30 the net after all charges and preferred dividend requirements was $805,857, equivalent to $2.59 a share on 310,919 shares.

Monsanto Chemical Works have listed its capital stock on the New York Stock Exchange, trading having commenced on October 10. The company has an authorized capital stock of 500,000 shares of no par value, of which 310,852 shares are issued and outstanding. The company's present dividend policy is to pay $1.25 per year in cash and 6% per year in stock.

Drug, Inc. Earnings Estimated

Drug, Inc. earnings for 1929 are expected to be approximately $16,570,000 after all charges, equivalent to $6.85 a share on 2,419,011 shares of capital stock. This is before giving effect to merger with Bristol-Myers Co. which will be consumated shortly.

Bristol-Myers is expected to show for this year close to $1,800,000. Merger with Bristol-Myers will bring the total earning power of Drug, as now constituted, to more than $18,500,000 annually.

In six months ended June 30, 1929, net earnings were $7,430,135, equal to $3.10 a share on 2,394,011 shares outstanding during the period, against $5,691,861, or $2.60 a share on 2,183,990 shares in corresponding 1928 period.

Company's balance sheet of June 30 reflects a strong position. Current assets were $44,472,045, including $12,470,469 in cash, compared with current liabilities of $7,266,496. Investments in stocks in other companies were carried in the balance sheet at $37,922,933, a conservative figure since its investment in Boots Pure Drug Co., Ltd., alone consists of 1,125,000 ordinary shares with a current market value of around $39,375,000. Its holdings in Household Products, Inc., amount to 150,000 shares with a market value of about $9,600,000.

Drug is selling currently around 110, against a high of 126⅛ and a low of 105 this year.

Changes in Whelan Drug Management

A. C. Allen, formerly executive vice president, was made chairman of the board of the Whelan Drug Co. Mr. Allen's election followed upon the resignation of the chairmanship by C. A. Whelan and the installation of a completely new board.

The new board, which assumed office immediately, consists of A. C. Allen, chairman; F. J. Griffiths, H. S. Kaufman, M. Sientz, A. M. Rosenthal, A. Granat, A. Staal and E. J. Poletti, directors. The new officers will be F. J. Griffiths, president; H. S. Kaufman, M. Sientz, A. Staal, vice presidents; W. A. Ferguson, secretary; George Wattley, Treasurer, and E. J. Poletti, assistant secretary and assistant treasurer.

Continental Can Co. has leased the forty-fourth floor in the Chanin Building, 42nd st. and Lexington ave., New York. The space will be used as executive offices for a new holding company now being formed and to be named Continental Containers, Inc.

Owens-Illinois Dividends

Owens-Illinois Glass Co. declared a dividend of 50c on common, payable November 15 to stock of record October 31. The company stated that distribution of 50c is an interim adjustment dividend and is not to be considered as an extra payment.

Dividends have been paid at the rate of $1 per share quarterly on the first days of January, April, July and October, the last dividend having been paid October 1. It is the purpose of the board to make the quarterly dividend payable hereafter on the 15th day of February, May, August and November. The dividend of 50c a share payable November 15 is for the half quarter from October 1 to November 15 and equalizes the setting forward of the next dividend date from January 1, 1930 to February 15, 1930.

Gustav Lohse A. G., Berlin, leading German perfumer factor, whose shares were until recently controlled by the firm of Ferdinand Muehlens, Cologne (the well-known 47-11 eau de Cologne producer), has passed under control of an American perfumery group, reports Trade Commissioner William T. Daughterty, Berlin.

Zonite Earns More

Zonite Products Corp. reports for nine months ended September 30, 1929, net income of $230,366 after all charges and taxes equivalent to $1.30 a share on 176,000 shares of stock as compared with $89,229 or 50 cents a share in the corresponding period of 1928. Third quarter of 1929 net after taxes was $71,646 or 40 cents a share as against $69,096 in the preceding quarter, equivalent to 39 cents a share on the 176,000 common shares then outstanding.

These earnings do not include those of the A. C. Barnes Co. of Philadelphia, acquired for a total of 200,000 shares during the third quarter of 1929, and bringing September 30, 1929, capitalization to 376,000 shares. Barnes' earnings are quite steady at the rate of $40,000 a month and this figure is expected to show gradual improvement under Zonite management.

Monsanto Buys Merrimac

Monsanto Chemical Works, St. Louis, announce acquisition through an exchange of stock, the business, assets, and good will of the Merrimac Chemical Co. of Boston. The purchase was ratified by Merrimac stockholders, at a meeting called October 24.

The Merrimac Chemical Co. was established in 1853; its products numbering more than fifty and include chemicals for the oil, tanning, paper, textile, and paint and lacquer industries. Their plants are located in Woburn and Everett, Mass. and employ about 850 men.

Anchor Cap Corp. and subsidiaries report for the September quarter of 1929 a net income of $360,360, after allowance for preferred dividend requirements, against a net income of $290,114 in the previous quarter. Net income for the first nine months of the year was $855,966, equal to $3.06 a share earned on 221,088 common shares outstanding after all charges, taxes and preferred dividend requirements.

Continental Can Co., Inc. has acquired the assets and business of the Nashville Corrugated Box Co. of Nashville, Tenn. This acquisition will permit Continental Can Co. to render a complete container service in that section of the country. J. D. Goodpasture, under whose direction the business has shown a constant growth since its establishment in 1920, will continue with the Nashville organization.

Walgreen Drug Co., of Chicago and the Schramm-Johnson Drug Co. of Salt Lake City have merged on a stock exchange basis. Walgreen operates 353 retail stores and the Schramm-Johnson chain includes 30 stores. No change in personnel is contemplated. It was said that an expansion program for Schramm-Johnson was contemplated.

McKesson & Robbins, Inc. declared regular quarterly dividends of 50c on common, payable November 11 to stock of record November 1 and regular quarterly dividend of 87½c on Series A preference stock, payable December 16 to stock of record December 2.

Wheeling Stamping Co., Wheeling, W. Va. report the purchase of the collapsible tube equipment of the Continental Can Co. of Detroit, in a cash transaction.

It is undecided at present whether Wheeling Stamping Co. will operate in Detroit or move the plant to Wheeling.

American Can Co. announce an extra dividend of $1 a share on the common stock. The dividend rate on the common stock is $4 annually. Can's declaration constituted the second $1 extra of the current year.

Continental Can Co. has called its outstanding preferred stock for redemption at $125 on Jan. 15. On Dec. 31, 1928, the company had $4,932,000 $100 par 7 per cent. preferred stock outstanding.

Drug and Cosmetic Stocks Withstand Market Storm

Common stocks of drugs and cosmetics manufacturers withstood the recent liquidation in the stock market better than the general run of industrial stocks, although both sold at new low levels for 1929, according to the stock market value indexes of the Standard Statistics Co., New York. A detailed comparison of the drug indexes and general industrial stocks indexes for recent weeks follows:

	Drugs and Cosmetics	*338 Stocks all industries*
Oct. 31	187.2	167.8
" 24	194.6	180.4
" 17	220.8	208.8
" 10	226.5	213.2
" 3	217.6	201.6
Sept. 26	228.7	213.3
1929 High	260.6	218.9
" Low	187.2	167.8
1918 High	264.3	186.4
" Low	166.8	132.5

Vick Recalls Financial Stock

In a letter mailed Nov. 7 to its customers in the retail drug trade the Vick Chemical Co. offered to cancel subscriptions for stock of the Vick Financial Corp. an investment trust sponsored by Vick Chemical, and to return the money received for the stock. The offer, it was said, was made as the result of the disturbed conditions in the stock market.

The Vick Chemical Co. obtained an option recently on a large block of Vick Financial Corp. stock at $10 a share and offered this stock to the druggists at the cost price. Many druggists had already subscribed for the stock before the recent market slump, which carried the price down to a low of 7⅝ on the New York Curb Exchange. Since then the stock has rallied and it closed yesterday at 10. It was explained that since Vick Chemical's option on the additional block of stock will not expire until Nov. 15, it would be possible to refund the subscriptions.

The Vick Chemical Corp. has assets of more than $11,000,000 aside from the $4,000,000 of stock covered by the option.

McKesson Acquires Isdahl

McKesson & Robbins, Inc. has acquired Isdahl & Co. A/S of Norway, a new company formed to sell cod liver oil. McKesson & Robbins is giving as part consideration for the new company 5,518 shares of common stock and 3,486 shares of preference stock, Isdahl & Co. A/S will be formed to receive the cash, bills and accounts receivable, inventory business and goodwill of the present Isdahl & Co. A/S which produces, refines and sells cod liver oil. A new company will be formed to succeed the present manufacturing company and will be known as Isdahl Eindomsselskab, A/S. This latter company will contract to sell all of its cod liver oil production for 25 years to Isdahl & Co. A/S, the McKesson & Robbins subsidiary.

Sales by Isdahl & Co. A/S, the old company, for the six months ended June 30, 1929, were 871,229 kroner or $232,128, against 3,196,005 kroner, or $852,799, in all 1928. Net profit after all charges and taxes for the six months ended June 30 were $11,685 against $43,856 in all 1928.

Monsanto Chemical Net Up 27%

Monsanto Chemical Works reports net earnings of $878,839, after Federal income taxes, for the nine months ended September 30, compared with $692,980 for the same period of 1928. These figures do not include earnings of subsidiaries. Properties acquired in the last few months, Merrimac Chemical Co., Rubber Service Laboratories and the fine chemicals division of Mathieson Alkali Works, have increased Monsanto's total assets from about $12,000,000 at the end of 1928 to almost $24,000,000 at present.

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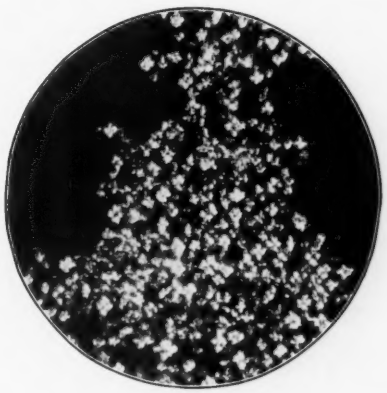
PHOTOMICROGRAPHS

Showing characteristic chalks. Note the variation in texture possible under I. C. control.



500 Diameters.

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Drug Industry Stocks

1929 Oct. 31st Bid	1929 Oct. 31st Asked	1929 High	1929 Low	1928 High	1928 Low	Sales in Oct.	Sales from Jan. 1.1929 to Oct. 31st	ISSUES	Par $	Shares Listed	An. Rate	Earnings $-per share-$ 1928	Earnings $-per share-$ 1927
								NEW YORK STOCK EXCHANGE					
121½	121¾	354¾	204¾	252¾	146	163,800	849,000	Allied Chemical	No	2,178,109	$6.00		10.03
133	141¾	184½	107⅝	117⅜	70½	1,251,600	2,383,900	American Can	25	2,473,998	3.00		4.11
...	...	142	136	147	136½	3,000	38,000	pfd	100	412,333	7.00		31.66
44	47⅜	81⅛	35	50⅜	44	35,200	446,200	American Chicle	No	373,190	2.00	9 mo. 6.48	41.04
...	...	...	...	114	107			pfd	No	33,200	7.00	9 mo. 42.13	6.78
31	33¼	55	20	55	43½	126,000	345,500	American Comm'l Alcohol	No	77,000	.....	3 mo. 2.66	
46	50	85⅜	40¼	86	59	66,400	337,030	American Home Products	No	534,000	3.00	6 mo. 2.52	3.67
...	...	...	...	83¼	70½		35,700	Certo Corp.	No	300,000	3.00	9 mo. 5.19	3.87
...	...	23½	12	36	20	24,800	190,300	Container Corp. Class A	20	271,189	1.20	9 mo. 1.46	2.26
6	6¼	11⅜	4½	19½	9¼	28,300	261,500	Container Corp. Class B	No	568,289	.60	9 mo. 0.73	1.13
62	64¼	92	40½	128⅜	53	456,900	938,100	Continental Can	No	*710,000	*5.00	8 mo. 7.61	7.21
...	...	126	115	128	123	180	1,580	pfd	100	51,125	7.00	8 mo. 111.39	86.82
102	104⅛	126⅜	82	94	64⅜	546,500	2,157,100	Corn Products	25	2,530,000	2.00	9 mo. 3.00	3.50
139½	140	144½	138½	146½	138½	3,190	14,920	pfd	100	250,000	7.00	9 mo. 35.63	42.40
34	36½	82½	20¼	89¼	62⅜	271,400	2,536,100	Coty, Inc	No	†327,762	†2.00	9 mo. 9.23	10.80
90½	95⅞	126⅛	71	120⅛	80	176,900	910,900	Drug Incorporated	No	2,183,990	4.00	8 mo. 3.60	11.47
54	56	79⅜	40	84	64⅛	49,700	141,600	Household Products	No	575,000	‡4.00	6 mo. 2.64	5.22
10	12½	23	12⅜	27½	13⅜	9,800	60,400	Kresge	10	3,678,720	‡1.60	9 mo. 2.76	3.76
65½	65⅞	76	65⅛	118	110⅛	400	3,850	pfd	100	20,000	7.00	9 mo. 512.30	698.85
107	113¾	157½	99⅛	136⅜	79⅛	227,500	2,607,600	Lambert Co	No	571,906	‡6.50	9 mo. 6.62	6.23
...	...	68½	35⅜	64¼	38	15,100	349,000	Lehn & Fink	No	295,000	3.00	6 mo. 3.25	4.32
35	37⅛	59	21⅛	50⅜	45⅛	25,400	2,783,100	McKesson & Robbins, Com	No	664,409	1.60	4 mo. 1.42	0.91
48	48⅞	63	40	63⅜	54	9,900	130,200	pfd	50	315,086	3.50	4 mo. 4.15	8.94
...	...	80½	60	...	...	7,300	7,300	Monsanto Chemical Co	No	310,852	1.25	9 mo. 6.30	6.11
45	49	72⅜	29	190	117½	215,600	788,580	Mathieson Alkali	No	147,207	6.00	9 mo. 9.54	10.93
60	60⅓	89½	50	95⅞	74⅛	23,400	189,800	Owens-Illinois Glass Co	25	768,860	4.00	9 mo. 4.13	5.37
30½	38	87⅛	23	56⅜	47¼	26,700	323,700	Park & Tilford	No	200,000	3.00	9 mo. 5.09	3.70
37	37½	82½	35	91	52	860	4,110	Prophylactic Brush	No	100,000	‡4.00	6 mo. 2.47	6.18
...	...	...	...	...	...			Rossville Com'l Alcohol Corp	No	120,000	.....		
10	11	41½	8	...	...	154,000	1,073,800	Schulte	No	1,121,667	3.50	6 mo. 1.99	4.90
...	...	65⅛	56	67½	35⅜	900	3,400	Sharp & Dohme, pfd.		162,500	3.50		
...	...	20½	8⅜	23½	11⅜	9,400	151,800	Sweets Am.	50	100,000	1.00	9 mo. 0.97	0.47
148	148½	243⅜	125½	138	102½	355,600	1,807,800	U. S. Ind Alc	No	240,000	6.00	6 mo. 3.90	7.26
...	...	...	...	125½	118⅜		880	pfd	100	60,000	7.00	6 mo. 19.12	36.03
5	5⅜	13½	3¼	...	...	90,300	136,500	Vadsco Sales					
39½	40¾	51⅛	33	85	58	62,600	508,000	Vick Chemical Co	No	400,000	4.00	6.06	5.36
78½	80	103⅞	72	225½	175½	357,200	1,769,600	Woolworth, F. W.	25	3,900,000	6.00		9.06
70	71	80⅞	67	84	68	18,900	178,400	Wrigley	No	1,800,000	‡3.50	9 mo. 4.38	5.43
								NEW YORK CURB					
28	29¼	40⅜	17	28½	11⅜	6,800	180,900	Amer. Sol. & Chem. Corp., V.T.C.	No	160,000	.....	1.58	0.17
...	...	42½	25⅛	47¼	25⅛	3,200	90,800	Con. Partic pfd	No	100,000	$3.00	4.00	3.17
...	...	...	...	...	...	700	700	Ches. Mfg. Co.	25	120,000	.....		8.49
...	...	90	46½	92	75	47,800	115,700	Colgate-Palmolive-Peet Com	No		2.00		
...	...	100	96	...	...	400	1,000	pfd	No		6.00		
...	...	...	...	57⅛	56	200	26,400	Davis Drug Stores Allot. Ctfs	No	100,000	.....	7 mo. 6.71	5.02
9	9½	26⅛	7⅛	...	...	11,700	65,200	Helena Rubenstein		135,000	.....		
25	25⅞	41½	17⅞	23	7⅞	2,210	17,810	Heyden Chemical Corp	10	150,000	.....		1.02
...	...	...	...	...	...			May Drug Stores	No	200,000	1.50	1.38	1.82
52½	56¼	49	67	72	50½	2,500	34,500	Mead-Johnson	No	165,000	3.00	6 mo. 2.94	6.33
...	...	12	2	28½	10½	1,000	5,120	Nauheim Pharmacies Com	No	90,000	.....		3.03
6	6½	32½	6	37⅜	20½	600	6,210	pfd	No	45,000	2.50		8.56
46½	47	58½	44½	55	38	8,600	48,106	Parke Davis & Co	No	4,747,829	1.00	1.73	1.54
...	...	94	50⅛	91	48	2,900	58,450	Peoples Drug Store	No	122,250	1.00		3.31
...	...	97½	81⅛	300	247		27,325	Proctor & Gamble	20	1,250,000	8.00	11.96	11 38
22	24½	30	16½	...	...			Sharp & Dohme, Com					
...	...	...	...	...	...		307,400	Standard Brands, Inc					
17⅜	18⅛	24	12	...	...	26,400	84,500	Stein Cosmetics					
...	...	107⅞	62⅛	102½	37⅛	19,300	200,700	Walgreen Co. Com	No	766,354	.....	9 mo. 2.17	1.59
...	...	44⅞	24	48⅛	27	40,400	211,300	Zonite Products Corp	No	176,000	.....	6 mo.	0.98
								CLEVELAND					
...	...	460	200	112½	25	205	1,953	Dow Chem. Co	No	120,000	6.00		
...	...	107¼	104½	107	103⅝	100	798	pfd	100	30,000	7.00		
...	...	42	24½	30	24	25	11,610	Miller Wholesale Drug Com	No	17,000	1.60		
...	...	50	24	24	21⅜	541	14,075	Weinberger Drug, Com	No	20,000	.....	9 mo. 3.51	1.35
								CHICAGO					
...	...	52	37½	...	...	5,100	41,650	Abbott Laboratories	No	120,000	2.00		
...	...	29¼	2	31¼	21¼	9,050	98,045	Lane Drug Co., Com	No	90,000	.....	7 mo. 1.47	3.13
...	...	32	16	51⅛	23	3,550	37,810	Cum. pfd	No	65,000	.....	7 mo. 3.20	6.34
								CINCINNATI					
...	...	41½	16½	...	...	1,996	7,596	Dow Drug Co	No	90,000	1.00		
...	...	125	102	...	...	5	5	pfd	100	4,000	7.00		
								UNLISTED					
								Heyden Chemical Corp., pfd	100	3,100	7.00		56.18
...	...	...	...	...	...			Merck Pfd	100	33,950	5.00		
76	81	...	...	...	...			Mulford, H. K. & Co	100	30,154	3.00		
...	...	...	...	...	...			Noxzema Chem. Co			.....		
...	...	...	...	...	...			Squibb Com	No	411,778	.....		1.69
...	...	...	...	...	...			pfd	No	63,888	6.00		16.92

*Before giving effect to 100% stock dividend.
†Before giving effect to 300% stock dividend.
‡Includes extras.

Gathering Roses

Aromatic Plants of Milly-en-Gatinais*

By Y. Trouard-Riolle, D. S.

ONE of the oldest centers for the cultivation of aromatic and medicinal plants in France is, no doubt, that of Milly, in the department of Seine et Oise, not far from Fontainebleau. Milly-en-Gatinais, as it is called, is an ancient, sacred Gallic locality, sacred for the reason that here the initiation rites of the Druids were held. In fact, it is from the teaching of these rites that the river which traverses the valley received its name: l'"Ecolé," or the "School." The ground cultivated along this river is black, deep, and extremely fertile. Vegetables grown there are practically without equal anywhere in the world. Beans, cauliflower and artichokes, for example, within the shortest possible time, take on a quality and size that appear marvellous to the visitor. And it is in the center of these fertile fields that for more than a century the inhabitants of Milly have devoted themselves to the cultivation of aromatic and medicinal plants.

From practically every shed in this district, during the months of July and August, and even September, at times, are wafted the odors of the peppermint, balm-mint and sweet marjoram. On the roads one

*Translated from a recent issue of *L'agriculture Nouvelle*.

meets the workers weeding, or women pushing wheelbarrows filled with vervain or tansy which they have gathered along the roadside.

There are, of course, a number of persons in this section of France who cultivate medicinal plants, but there is one man in particular who has succeeded in putting the growing of such plants and herbs on a commercial basis, and that is a Mr. Thévenin-Mazars. In fact, Mr. and Mrs. Thévenin-Mazars have built up a business for themselves which is proving very profitable from every point of view.

Mr. Thévenin-Mazars comes from an old peasant family, satisfied for years with a rather limited cultivation of various kinds of medicinal and other plants. His wife, a hard-working, intelligent woman, saw the possibility during the war to put the aromatic and medicinal plant business of theirs on a solid footing commercially. This effort of hers was carried out with a fixed purpose, despite the fact that she was raising four or five children. To-day the family possesses approximately 15 hectares of land under cultivation, and three drying-sheds, or sechoirs, very well equipped and outfitted with everything required for the successful accomplishment of their chosen business.

The successful cultivation of aromatic and medicinal plants includes:

1. Cultivation and harvest
2. Drying and packing

Peppermint is Favorite Plant

At Milly the peppermint, in particular, is grown, this being the favorite plant of the district. In addition to the peppermint there is cultivated also wild pansy, or heartsease, sage, hyssop, henbane, datura, borage, belladonna, balm-mint, wormwood, angelica, sweet marjoram, blue and yellow trefoil, mallows, camomile of different kinds, etc. The plantations spread throughout the entire commune or township of Milly, in the vicinity of the river l'Ecole, or, in other words, over all the fertile ground of this district, famed for its fine yields.

The plants are grown in carefully prepared soil. They are sown each year or every two years, in order to permit of alternation so as to facilitate the rotation of crops. This, naturally, makes for more vigorous plants, with a better perfume and superior value. Plants for cultivation are chosen with great care, and plants grown from seeds are planted separately.

These various plants are planted in rows. Before gathering time they are carefully weeded, by hand, at least three times. No other plant of any kind is allowed to exist side by side with any special species under cultivation. As far as the eye can reach, one sees fields of peppermint, borage, hyssop, henbane, balm-mint, sage, wild pansy, wormwood or absinth. And then the special cultures which are alternated with plots of vegetables, such as beans, artichokes, cauliflower:—

Sweet basil, sweet marjoram, aconite cochlearia, mugwort, mercurialis, horse-radish, mallows, rue, vervain. The foregoing represent a few of the plants grown in and near Milly at the present time. Each year sees additions and subtractions, making any set or fixed list impossible.

The flowering plants are cut by hand, giving, at times, two or three cuttings. The third cutting, because of its being rid of everything superfluous, is of great value. This year, for example, the peppermint, taken entire in "bouquets", as the phrase goes, is worth 12 francs (about 48 cents) per kilogram, whereas the third, or thoroughly clean, cutting brings about 22 francs (approximately 88 cents).

Air Drying the Plants

Directly after being gathered, the plants must be carried immediately to the drying-sheds, in order to prevent their losing color and perfume. Naturally, the drying sheds must be near the crops treated, and Mr. Thévenin-Mazars has built three of these sheds which are models for efficiency, arrangement and equipment. It is here, in these sheds, that the most delicate, and important work of the herborist is accomplished. The plants are air-dried, either by being ingeniously arranged upon specially constructed frames, or suspended in garland form from the ceiling.

The drying-sheds have two or three floors, one very much like the other. In the outer walls are numerous openings, permitting the free circulation of air, and allowing sufficient light to enter the sheds. In the center of such a shed is to be found wooden frames, covered, with either pack-cloth, or wire netting, as the case may be. On each floor are three series of frames, each of the series comprising about ten superimposed frames.

Each frame is portable, permitting it to be moved wherever and whenever required. The frames covered with pack-cloth are indispensable in connection with flowers, or stripped leaves, whereas the frames covered with wire netting are best for the plants in "bouquets", as they are called.

Communication between floors is carried on by means of trap-doors and portable ladders. When the plants are sufficiently dry, they are gathered together in bunches, placed in the press, covered with pack-cloth and then shipped to the purchaser.

Chopping and Weighing

On the ground-floor is a chopping machine, electrically operated, making it possible for them to prepare the various mixtures requested by the druggists, and, naturally, a scale to tare the bales or bundles before sending them off.

When the plants are small, like the wild penny, they are tied together in small bouquets, and then in garlands, these being suspended from the beams of the drying-sheds between the frames used for the other plants and flowers.

A capable and efficient personnel is employed for the purpose of supervising this highly important process of drying, and, as explained before, the plants and flowers must be dried in an atmosphere without moisture, in the dark, or half-light, and as rapidly as possible.

Before undertaking the cultivation of aromatic and medicinal plants, one must first know the flora of the section or district, then make a physical and chemical analysis of the soil, in order to ascertain which species may be most advantageously cultivated. After this, one must assure oneself of being able to secure efficient labor, and, above all, plan and build drying-sheds large enough, as well as suitably arranged, to take care of the crops with dispatch.

The industry is profitable, but it presupposes a knowledge that is absolutely essential for success. It would be a waste of time for some one to plant and try to grow any kind of aromatic or medicinal plant in any kind of soil, and it should also be borne in mind that the drying of these plants must be carefully studied before it is attempted.

Colgate-Palmolive Earns More

Colgate-Palmolive-Peet Co. report for the quarter ended Sept. 30 net income of $3,258,277 after charges and taxes equivalent after preferred dividual requirements to $1.52 a share on 1,999,988 no par common shares, against $1,564,112, or 68c a share, in the third quarter last year.

Wisconsin state tax commission has charged several operating subsidiaries of Colgate-Palmolive-Peet Co. with attempting to avoid payment of state income taxes by reporting incomes "based on arbitrary and fictitious arrangements between affiliated companies.

If the tax commission is successful in prosecuting the case, the decision probably will be made the basis for prosecuting other corporations which, in the opinion of the commission, attempt to evade the state income tax by organizing holding companies outside of the state

Salesmen Install Officers

The new officers of the Salesmen's Association of the American Chemical Industry were installed at the opening meeting for the season held at the Western Universities Club, New York, Nov. 7.

Retiring President Ralph E. Dorland, Dow Chemical Co., presided and introduced many who have been instrumental in founding the association and carrying it successfully through its eight years of existence.

Mr. Dorland introduced the officers starting with the lowest and working up to the president who was introduced last. Extemporaneous talks by prominent members were sandwiched in between the installations of the various officers.

At the conclusion of the meeting, Mr. Dorland was presented with a silver water pitcher on behalf of the members in expression of their appreciation of the continuous work that Mr. Dorland has done in behalf of the association.

The new officers of the association who promise much for the coming year are: Victor E. Williams, Monsanto Chemical Works, president; Frederick A. Koch, Dow Chemical Co., first vice-president; Ira Vandewater, R. W. Greff & Co., second vice-president; Harrison Wilmot, A. Klipstein & Co., third vice-president; B. J. Gogarty, American Solvents & Chemical Corp., secretary-treasurer.

Wanamaker Sues Falkingham

Wanamaker Store in Philadelphia began suit in the United States District Court for an accounting and for an injunction to restrain Claire Parfumeur, Inc., and Percival E. Falkingham, that firm's president, from using the first mentioned name.

The store sued as the distributor of perfumery, toilet articles and "beautifying products", manufactured and gathered abroad by the John Wanamaker store of Paris. It is charged that the Paris Corporation adopted the words "Claire" and "Parfumerie Claire" as trademarks in 1910, and has the exclusive right to use them in connection with its products.

Falkingham, according to the complaint, came to New York from California in 1928, opened offices at 201 Fulton st. and later incorporated under the name of Claire Parfumeur, Inc.

Pfaudler Convention

The Pfaudler Co. has just completed a three-day sales convention at Rochester. General business discussion was in order, and a generous program of entertainment was also supplied the visiting salesmen.

One of the highlights of the convention was a luncheon in the Little Assembly Hall of the Chamber of Commerce, at which Dr. H. E. Van Norman, vice-president in charge of research and public relations for the Borden Co., New York, former President of the National Dairy Association, and national milk products authority, gave an address, "Where will the large eastern metropolitan centers get their future milk supplies ?"

Among the aims for the year is taking care of the customer when he is in trouble as well as accepting original orders, and the elimination of any possible complaint through exceptional service.

Daggett & Ramsdell in Canada

Daggett & Ramsdell, England, has organized a Canadian subsidiary with headquarters at Woodstock, Ont. The company will be known as Daggett & Ramsdell (Canada) Ltd., and will manufacture, import and export all kinds of chemicals, mineral and vegetable products, as well as carry on a wholesale and retail business in a long list of drugs, medicines, toilet articles and druggists' sundries.

The incorporators are George M. Huycke, Norman E. Strickland, Robert G. Ferguson and Harold Emerson, of Boston, and James B. Taylor, of Ontario. Nominal capital is placed at $110,000, divided into 1,100 shares $100 par value stock.

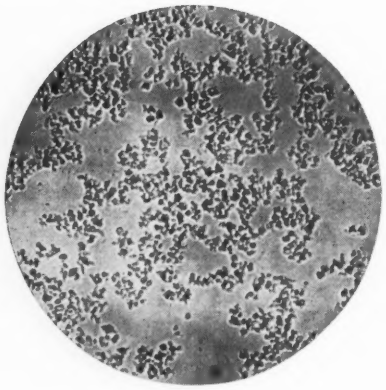
Sherman K. Ellis, former Pacific Coast manager for the J. Walter Thompson Co. and more recently vice-president of Erwin, Wasey & Co., New York, has been elected president of a new Los Angeles company which is taking over the manufacture and marketing of Ever-dry, a non-perspirant and deodorant, and other toilet articles. Advertising will be placed through the Los Angeles office of Lord & Thomas and Logan.

The Industrial Chemical Sales Co. Inc. announce that they have concluded an arrangement with the Floatstone Products Co. of Los Angeles for the exclusive marketing and distribution of that company's high grade diatomaceous earth for filtration and other purposes. The filtration grade will be offered under the trade name of "Diafilt" and is claimed to be comparable in clarification efficiency to the best filter-aids now on the market. Regular stocks will be carried at all convenient marketing points.

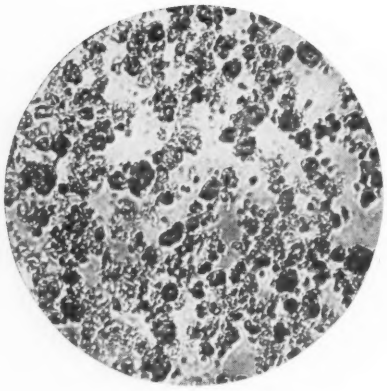
Peoples Drug Stores, Inc., had sales of $1,366,846 for October, against $974,626 for the 1928 month, an increase of 40.4 per cent. for the ten months sales amounted to $12,421,875, compared with $8,990,385 for the first ten months of last year, a gain of 38.2 per cent.

ASK ANY CHEMIST

Making a Well-Known Tooth Paste



Grade I
Precipitated Chalk x 600



Grade V
Precipitated Chalk x 600

LIGHT precipitated chalk is now generally considered essential as a filling for tooth pastes.

But laboratory control recognizes a vast difference between chalks, each of which may properly be called precipitated chalk.

For instance, during the process of manufacture of Sturge's Chalk the size of the particles being precipitated can be varied in such a way that all grades of density can be produced between the limits of one-sixth to twice as dense as water. The smaller and more regular the particles, the less will be the apparent density of the chalk. In the micro-photographs shown here, the mean diameter of a particle of Grade I is about $^1/_{2000}$ millimetre. This means that 400 particles could pass together through one mesh of a sieve having 250 meshes to the linear inch—one of the finest mesh sieves available in manufacturing practice.

Sturge's Precipitated Chalk is manufactured to a specific density—a standard which always meets the requirements of the tooth paste formula.

Other properties of Sturge's Standard Chalks are:

U. S. P. Always

Sturge's Standard Chalks have always been up to the standard of the U. S. P.

Sturge's Standard Chalks will conform to the most rigid manufacturer's specification.

No Grit

All Sturge's Standard Chalk is free from grit; matter insoluble in Hydrochloric Acid never exceeds 25 parts in 100,000. The solution is bright and colorless.

No Free Alkali

By special methods of manufacture the available alkalinity of Sturge's Standard Chalk is so reduced

WHY STURGE'S STANDARD

Light Precipitated Chalk is Used

that there is no red coloration when dilute phenolphthalein is poured upon the dry powder.

Color Unadulterated

Some manufacturers prefer to add a soluble dye, or even ultramarine in order to give a dead-white appearance. However, inasmuch as this is a form of adulteration, Sturge's Standard Chalk is not treated in any way and exhibits only the natural bright white of the pure Calcium Carbonate.

Free from Metals

Finally, the standard of the U. S. P. is sufficiently severe to condemn all but the slightest traces of metallic impurities, so that the almost entire absence of these in Sturge's Standard Chalks is guaranteed.

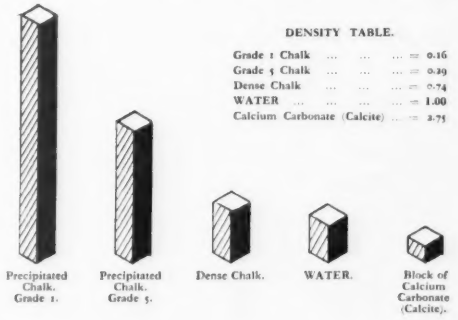
Dense Chalk
Precipitated Chalk x 600

Sturge's Standard Methods of Testing Chalk consist of:

Test A—Density by Dry Way
Test B—Density by Wet Way
Test C—Alkalinity by Dry Way
Test D—Alkalinity by Wet Way
Test E—Standard Test Solution

These tests, perfected and standardized by over fifty years' experience are described in detail in our new book "Precipitated Chalk". This book also contains a series of graphs designed to assist a tooth paste manufacturer in choosing the grade of precipitated chalk which will give him the result he requires. A copy of this book will gladly be mailed on request.

DIAGRAM SHOWING APPARENT VOLUME OF EQUAL WEIGHTS OF MATERIALS.



DENSITY TABLE.

Grade 1 Chalk	0.16
Grade 5 Chalk	0.29
Dense Chalk	0.74
WATER	1.00
Calcium Carbonate (Calcite)	2.75

JOHN & E. STURGE, Ltd. STURGEON BRAND REGISTERED TRADE MARK **Birmingham, England**

Distributors

271 Madison Ave. **H. J. BAKER & BRO.** **New York, N. Y.**

MANY manufacturers have come to know that their goods are more frequently trade-marked by odor than is generally appreciated.

The first impulse on the part of the prospective buyer who picks up a cake of soap or package of talcum is to smell it. If the odor appeals, the merits of the article have a chance to be recognized. However, should the odor be unpleasant, the examination generally goes no further.

Perfumes can be added to many articles which are ordinarily quite odorless and such addition adds sales value and appeal to the product.

Leaders in various industries are endeavoring to improve their products in regards to odor. Lacquer manufacturers, tanners, producers of leather, laundry soaps, rubber goods, paper, wall finishes, cork linoleum, fly sprays, etc., all can make use of perfumes. Lately scientific principles have been brought into play which now permit odoriferous materials to be combined to obtain a desired effect at a minimum cost.

SPECIAL PERFUMES

for

Bath Salts
Face Creams
Liquid Soaps
Toilet Soaps
Face Powders
Talcum Powders
Paradichlorobenzene Blocks
Hair Pomades
Insecticides
Theatre Sprays
Paper

Practically every manufacturer is accustomed to calling in Experts for advice concerning his advertising, packaging, style and many other appeals to the sense of sight. He needs advice no less in matters concerning sense of smell.

The full facilities of our Perfume Research Division are at your disposal and we suggest that you place your problem before us.

FRITZSCHE BROTHERS, INC.

78-80-82-84 Beekman Street, New York, N. Y.

Sole Agents in the United States and Canada for

SCHIMMEL & COMPANY, LTD.
Miltitz, near Leipzig
Germany

Waxes in Salves and Face Creams

By Dr. Erwin Koch

Chemist of Wax and Bitumina, Muenchen, Bavaria, Germany

THE choice of the wax base that enters into medicinal and cosmetic preparations for the skin is of greatest importance. Medicinal preparations, like salves, the purpose of which is a healing effect, should be free from saponifiable and other substances that get rancid, decompose, and develop free acids. For, such substances are irritants and should not be applied to the skin.

Medicinal salves contain ichtyol, iodine, etc. The base of these salves should be staple, non-decomposing, of mineral nature; for, only mineral fats—like petrolatum made out of pure refined ozokerite and petrolatum oil—are entirely neutral, acidproof and alkaliproof, and proof against drugs and perfumes mixed with them. The Pharmacopoeia describes pure ozokerite as being neutral, acidproof and alkaliproof, odorless and tasteless. Refined ozokerite has, as will be seen, beside these, other properties, which particularly adapt it for medicinal and cosmetic preparations.

Paraffin wax is, unfortunately, rather extensively used by the trade. Now, paraffin does not fill the requirements of the Pharmacopoeia. In fact, it falls short of them, in several respects important in medical and cosmetic preparations. Its use can, therefore, not be recommended. Its purely physical properties alone make it but ill-adapted for use, even in cosmetic preparations. The main reason of its use is its cheapness.

In cosmetic products, where a healing effect or high quality of the preparation is not aimed at, paraffin wax may, of course be used. But, as stated before, paraffin wax by reason of its physical properties is ill-adapted for the purpose. For, it is a brittle product of the distillation of crude oil or bituminous coal. It crystallizes and very soon separates from whatever oil it is mixed with. The cream, in which it is contained, then dries out, cracks, and separates from the container.

Now, pure refined ozokerite is colloidal. It does not crystallize. Mixed with oil it absorbs it avidly and holds it indefinitely. The cream in which it is used does not crack or dry out. It retains its fresh, salve-like, smooth consistency, even when left exposed in extreme temperatures, cold and hot.

But 100% pure refined ozokerite is not cheap. If, therefore, highest quality of face cream is a secondary consideration, and lowering of cost is desirable, then paraffin wax may be mixed with the ozokerite. Equal parts of ozokerite and paraffin will still yield satisfactory results. The crystallizing of the paraffin will, in such a compound, still be sufficiently modified by the amorphous, non-crystallizing ozokerite. But, of course, only pure ozokerite will produce the highest type of face cream. But only refined ozokerites of high melting points, like 75° C. or 167° F., will stand the extreme temperatures of the hot Summer months without softening. Pure ozokerite of the lower melting points, like 154°F. should, therefore, be mixed with paraffin wax of the melting point of at least 140° F. For, paraffin, being crystalline, does not get soft until its melting point is reached.

It is a regrettable fact, that the commercial name "ceresin" does, nowadays, stand for pure refined ozokerite. Very often the ceresin contains, beside paraffin, also carnauba wax, montan wax and chemicals like beta-naphtol, stearinadic anilid, so as to impart to the ceresin the opaque whiteness of the pure refined ozokerite. Such a product should not be used in cosmetic and pharmaceutical preparations; for, its effect upon the mucous membrance and the skin is harmful.

Adulterations of refined ozokerite, called in commerce "ceresin" like the above described, are easily proven by chemical reaction. But in the ceresin that is a compound of only paraffin and refined ozokerite it is not provable. For, the natural product called ozokerite, and the artificial wax called paraffin, are both petroleum products and show exactly the same chemical reaction. These ceresins contain, on the average, 75%, but often as high as 99% of paraffin; the better ceresins about 50%. Even pure paraffin is at times offered as ceresin.

It is frequently necessary to add water to the salve-like wax bases of preparations like, for instance, cold cream; or to pharmaceutical preparations that are to contain certain salts like iodkalium. Now, fats and mineral waxes do not mix with water. The addition of a few per cent. of eucerin will remedy this. Eucerin is a highly refined, non-decomposing part of lanolin,

which does not get rancid. The percentage of eucerin to be used depends on the quantity of water that is to be added to the preparation. But, it is advisable to have the eucerin chemically analyzed. For, it is very difficult to get the pure article. It is often adulterated with paraffin wax and other inferior stubstances.

Of all waxes the only neutral, non-decomposing wax for pharmaceutical or cosmetic preparations is the 100% pure, refined ozokerite. Its chemical as well as its physical properties make it the best, most valuable base for salves and creams. And, the only way to get the pure ozokerites is to know well your source of supply.

New Refined Alcohol

American Solvents & Chemical Co., New York, announce production of Amersol "Gold Shield" alcohol, a special alcohol of exceptionally high quality for the pharmaceutical, toilet preparations, and flavoring extract trades.

This grade of alcohol will not be produced for general industrial consumption, but only for those consuming channels requiring rigid uniformity and extreme chemical purity.

In Amersol "Gold Shield" alcohol the inherent fermentation impurities have been removed by means of a refinement of production equipment, and by production placed under the most exact methods of control.

Proposed Continental Can, Owens-Illinois Merger Off

The proposed merger of Continental Can Co. and the Owens-Illinois Glass Co. has been called off due to conditions in the stock market. The announcement of the halting of the plan stated that since the merging of interests of the two companies called for the raising of a substantial amount of money through subscription rights, directors of the companies feel that it will not be desirable under present conditions to carry through the proposed plan.

Coty Denies F. T. C. Charge

Coty, Inc., New York, have denied that they enforced a policy of resale price maintenance, according to information made available at the Federal Trade Commission, Oct. 22.

The Commission had issued a complaint against Coty, declaring that dealers and distributors were required to or induced to sell at prices which the respondent suggested. In denying this Coty, Inc., admitted that it adopts and publicly announces a schedule of resale prices on its products which it recommends and suggests to its customers.

The Nebraska Supreme Court has refused rehearing in the case of the State against Henry Geest, charged with violating the State Pharmacy Act by selling aspirin from his grocery stock. The court had previously held that it was an unreasonable exercise of police power to restrict the sale by druggists alone.

Attorneys for the Druggists' Association contended that this invalidity of the law made the situation serious in that there was nothing to prevent anyone from selling drugs, medicines and poisons. The court said that as the United States Pharmacopeia included such articles as salt, soda, soap, distilled water and corn starch, it was unwarranted use of power by the Legislature to say that only druggists able to analyze could sell them. In the case of aspirin, it was pointed out, the druggist did no more than the grocer in that he merely handed out the package the customer called for.

Palmolive Sues Tax Commission

The Palmolive Co. has begun an action against the Wisconsin tax commission to determine the legality of the ruling of that commission in assessing additional taxes for the years 1920 to 1926, inclusive.

The bill of complaint which has been filed in the District Court of the United States for the Western District of Wisconsin alleges that the tax commission arbitrarily determined that a portion of the combined income of the four affiliated companies was taxable income of the Wisconsin corporation, and points out that two of the companies have never transacted any business in Wisconsin and have never been subject to the jurisdiction of that State.

Chemical Trade Problems in New York

C. C. Concannon, Chief of the Chemical Division, Bureau of Foreign & Domestic Commerce, Department of Commerce, will be in New York Nov. 21 for consultations with members of the drug, chemical and allied industries who have problems with regard to domestic or foreign trade. Appointments may be made with Mr. Concannon at the New York office of the Department of Commerce at the Customs House, Battery Park.

It is the plan of the Chemical Division to have an official of the division in New York once a month for such members of the drug and chemical industries as may want to present problems to the division for solution. Mr. Concannon's experience in dealing with these problems is world wide in scope and most often the problems presented are quite easily solved.

For those who are unable to make appointments with Mr. Concannon during his November visit, the other monthly visits of other officials as of Mr. Concannon will afford ample opportunity for members of the drug and chemical industries to take advantage of this service of the Government.

Basic Alcohol Permit Limited

The District Court for the Eastern District of New York has held that the holder of a basic permit from the Prohibition Bureau to operate an alcohol denaturing plant does not have the right, simply by reason of such permit, to require the issuance of permits for the withdrawal of alcohol for use in his plant.

The plaintiff was the holder of a permit to operate a denaturing plant until Dec. 31, 1928, and contends that the basic permit was not legally terminated at that time, while the defendants deny that contention.

The question presented on this motion is, however, the refusal of the defendants to grant withdrawal permits authorizing the plaintiff to purchase alcohol, not denatured alcohol.

Even if the basic permit is still in existence, it does not carry with it the right to procure any alcohol for denaturation, and the prohibtion administrator is vested by law with the same discretion in passing upon applications for purchase permits as is vested in him with respect to any other kind of permit.

Triborough Chemical Corp. was the plaintiff and James M. Doran, Commissioner of Prohibition defendant.

Bernard Laboratories, New York, has introduced a new antiseptic named "Denta-Caps", (Capsules Alkaline Antiseptic.) It is based on Dr. Carl Seiler's formula. The capsules contain a pinkish powder for solution in warm water for mouthwash, gargle, nasal spray, personal aesthetics and general antiseptic uses.

Murray Breese, formerly editor of the "American Druggist", is now associated with Health Products Corp., Newark, in the capacity of advertising, publicity and contact director. Mr. Breese entered his new position Nov. 1.

Synthetic Aromatics

Phenylacetic Aldehyde or Artificial Hyacinth

TO the manufacturing perfumer phenylacetic aldehyde, or artificial hyacinth, is an invaluable product when it comes to the matter of adding an agreeable and saleable hyacinth to his line of perfumes. This particular aldehyde is very highly regarded in the trade because of its fine flower odor, and is made up as follows:

$C_6H_5OH_2OHO$

The odor is strong and sustained and reminds one of the hyacinth or certain effluvia of narcissus, in the preparation of which it is used. Like benzoic aldehyde it oxidizes rapidly in open bottles and it is absolutely essential to conserve its quality in alcoholic or organic solutions, according to Gattefossé.

It is prepared in a number of different ways, but the cinnamic acid method is the one most frequently used. Successively or simultaneously an acid, an alkali and a halogen (potash and brome, for example) are brought into contact with an alkaline salt, then using a treatment of weak acid, boric or oxalic, which serves to fix upon the double liaison or cinnamic acid one molecule of hypobromic acid.

What applies to the so-called fatty aldehydes, to be treated in subsequent articles, also holds good for phenylacetic aldehyde insofar as solutions are concerned. In other words, the manufacturing perfumer should proceed on the 10% basis, using benzyl benzoate or a strong alcohol, and then work this solution with a great deal of precision and care. It is a product that produces a strong perfume with much warmth, and at the same time serves to modify any harsh effects.

According to Henri Fouquet in his "La Technique Moderne et Les Formules de la Parfumerie", 1929,—

Density at 15°C	One may dissolve cold in 1 kilogram					
	Alcohol					
	at 95°	70°	60°	Oil Mineral Oil	Vaseline	
1,050	1000	10	3	100	5	25

Naturally, phenylacetic aldehyde is indispensable as a hyacinth base, and it is widely used in narcissus, in lilac, in rose, sweet-pea, and others. It is also an excellent fixative, blender and serves to add tone to the actual bouquet of a perfume. The slightest traces of acid, or above all alkali, causes it to polymerize. It then loses its odor and can not be utilized. Carefully handled it may be used in certain soaps and also in vanishing creams.

In order to enable the manufacturing perfumer to produce several hyacinths we quote the following formulas, appearing in Fouquert's work, and which can not, of course, be guaranteed as to accuracy by DRUG MARKETS although it is felt that they offer an interesting field for experimentation in the preparation of a satisfactory hyacinth:

HYACINTH I

Phenylacetic aldehyde	65 gr.
Terpineol	200 cc.
Vanillin	25 gr.
Heliotropin	10 gr.
Phenylethyl alcohol	110 cc.
Aldehyde C^9 (Nonyl aldehyde)	5 gr.

HYACINTH II

Phenylacetic aldehyde	500 gr.
Jasmine oil	150 cc.
Neroli oil	150 cc.
Terpineol	50 cc.
Orris, liquid oil of	50 cc.
Phenylethyl alcohol	50 cc.
Phenylethyl acetate	25 cc.
Heliotropin	10 gr.
Octyl alcohol C^8	10 gr.
Octyl aldehyde C^8	5 gr.

In the foregoing formulae phenylacetic aldehyde, naturally, leads all other materials used in order to produce a synthetic or artificial hyacinth. So that the manufacturing perfumer may also have an idea as to what the proportions are in the use of phenylacetic aldehyde in lilac, for example, we are appending two such formulas which should prove of interest:

LILAC I

Hydroxcitronellal	250 cc.
Terpineol	450 cc.
Neroli oil	50 cc.
Phenylethyl alcohol	150 cc.
Linalol	50 cc.
Methyl anthranilate	25 gr.
Alcohol, *tubérique*	10 gr.
Alcohol C^9 (nonyl)	5 gr.
Aldehyde, amyl cinnamic	5 gr.
Phenylacetic aldehyde	10 gr.

LILAC II

Linalol	500 cc.
Phenylethyl alcohol	200 cc.
Jasmine oil	125 cc.

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Cinnamic alcohol	20 cc.
Alcohol, *tubérique*	50 cc.
Alcohol C^9 (nonyl)	10 gr.
Phenylacetic aldehyde	10 gr.
Aldehyde C^9 (nonyl)	5 gr.
Oil of ylang-ylang	15 cc.
Jonquil oil (natural)	20 cc.
Neroli oil (natural)	10 cc.
Jasmine oil (natural)	10 cc.
Heliotropin	10 gr.
Vanillin	5 gr.
Aldehyde, amyl cinnamic	10 gr.

"Precipitated Chalk" is the title of a new booklet received by H. J. Baker & Bro. from John & E. Sturge Ltd., Burmingham, England. This booklet gives a comprehensive analysis of precipitated chalk used for tooth paste manufacture. Microphotographs of various grades of chalk are shown; density tests developed in Sturge's laboratory are given in detail; and graphs which assist manufacturers in selecting the proper density of precipitated chalk, occupy several pages.

Phoenix-Hermatic Co. announce that the San Francisco division of the company is now under the direction of Joseph L. Zeman succeeding Mr. Bellamy, recently resigned; and that the Los Angeles division is now under the direction of D. C. Lathrop succeeding Mr. Zeman who has been transferred to the San Francisco division.

Substances Used as Driers

A number of new substances has been introduced into the market during the past few years whose dessicating properties have not been generally appreciated. They merit special attention. One of these is boric anhydride. This substance has been used for the preparation of formic acid. It is a very powerful dessicative. The boric anhydride powder rapidly absorbs twenty nine per cent. of its weight in water. The transformation of the anhydride into metaboric acid requires 28.5 per cent. water. The dessicating power of this substance is greater than that of sulphuric acid and calcium chloride. It is a little less than that of phosphorus pentoxide. The product is prepared from boric acid crystals which are heated in a platinum capsule. The temperature of the dessication is 800 to 1,000° C. The liquid mass is emptied out of the capsule after being maintained at that temperature for one hour. Best results are obtained by pouring the liquid mass into carbon tetrachloride at a temperature of zero degrees C. A temperature in excess of 800° C should generally not be exceeded in the preparation of the anhydride, for otherwise a product is obtained which absorbs water with difficulty only.

Magnesium perchlorate is another substance which possesses strong dessicating properties. No other substances is known which will absorb water so avidly as this one without undergoing chemical change. The drying or dessicating power of the perchlorate is as great as that of phosphorus pentoxide. Many advantages are gained by the use of this substance, for when it is used, no channels are formed for quick passage of the water without absorption. The salt is neutral and the volume diminishes as it absorbs the water. The neutrality of the salt makes it possible to use it in apparatus which could not withstand the action of phosphorus pentoxide or sulphuric acid. Pharm. Weekblad.

The bill recently introduced into the Chilean Congress to annul Article 22, has been reported into the Senate after having passed the House and is still awaiting a decision of the Senate Committee, reports Commercial Attache Ralph H. Ackerman, Santiago.

Papers Before A. Ph. A.

Pressor Assay of Epinephrine-Novocaine Mixtures—By James C. Munch and W. A. Deckert. The epinephrine content of epinephrine-novocaine mixtures may be quantitatively measured by comparing increases in blood pressure with the increases produced in a previously injected series of doses of standard epinephrine. Small quantities of novocaine do not have an appreciable effect on the pressor action of epinephrine. Large quantities potentiate the pressor action of epinephrine. Large quantities potentiate the pressor action and the effect persists for some time.

Therapeutic Activity of Neo Arsphenamine—By Alfred E. Jurist and W. G. Christiansen. Some studies on the Toxicity and therapeutic index of Neoarsphenamine are presented showing the wide range of variation in this product and the existence of at least one product with a therapuetic index closely approaching that of arsphenamine. Some discussion of the relation between the chemical, physical, and colloidal characteristics and therapeutic index of Neoarsphenamine is presented.

Pharmacology of Ergot with Respect of Biological Assays and Standards—By Marvin R. Thompson. The assay of a large number of ergot preparations by the U. S. P. cockscomb method and also by several other bio-assay methods have shown that a certain number of samples apparently increase in activity for a time after manufacture before reaching a uniform assay activity. The reason for this varying increase is discussed.

ON CHEMISTRY

Methylene Blue, U. S. P. as Precipitant of Irish Moss—By George E. E'we. Experiments on nature of precipitation conducted.

Mercuration of Phthaleins in Neutral Solution with Bichloride of Mercury—By Frederick R. Greenbaum. Series of mono-and di-mercury compounds made when neutral solution of sodium salts of phthaleins act with boiling concentrated solution mercuric chloride.

Turkish Rhubarb—By R. A. Konnerth and R. E. Schoetzow. Evidence is furnished that the so-called "Turkish" rhubarb recently offered on the market is in fact rhapontic rhubarb.

Assay of Ointment Mercury Oxide Yellow—By L. W. Greene and R. E. Schoetzow. Three methods yielding unsatisfactory results and two methods yielding satisfactory results are discussed.

Quantitative Methods for the Study of Peroxide Formation in Ether—By R. Van Winkle and W. G. Christiansen. Details of quantitative methods for determining active (peroxide) oxygen and molecular (dissolved) oxygen in ether are given and results compared with U. S. P. peroxide test.

An Empiric Assay for Compound Pills of Mercurous Chloride—By L. E. Warren. Jenkins method for assay of podophyllum determines resins and certain vegetable acids together. Each vegetable ingredient of compound cathartic pills studied separately by this method. Ten commercial samples analyzed. Addition of resin of jalap, resin of ipomoea or aloes readily detected by this method.

SYMPOSIUM OF BACTERIOLOGY

Antiseptic Action of U. S. P. and N. F. Ointments—By George F. Reddish. A number of ointments were tested for bacteriostatic power by streaking on the surface of serum agar inoculated with Staph. aureus. Antiseptic action is indicated by a clear zone surrounding the streaked ointment, the remainder of the plate being turbid with the colonies of the test organism. Only about one-half of the U. S. P. and N. F. ointments are antiseptic, by this test.

A Comparison of the Tissue Toxicity and Germicidal Power of Germicides—By Lester C. Himebaugh and Emil C. Fanto. The toxicity of various germicides to living tissues grown outside the body has been compared with their germicidal action.

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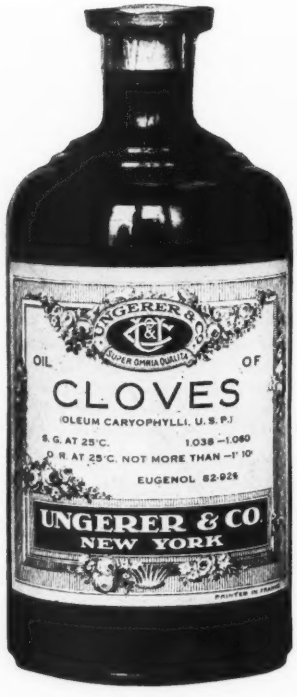

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Market FACTS *From* GRASSE

- ¶ Cheap Jasmine Expected to Discourage Production.
- ¶ Rose-Geranium Yield Decreasing.
- ¶ Orange Trees Must be Replaced.
- ¶ Jonquil Beginning to Grow.

By O. C. Zilisch

Our Grasse Correspondent

OCTOBER 10th marked the closing date for the gathering of the jasmine flower, this being the usual date each year unless conditions are so favorable that it can be profitably extended. As predicted in our report of last month, the actual yield in kilograms for jasmine this year has gone below the normal. The quality of the flowers, however, is said to be very good, and general satisfaction is expressed throughout the trade. Prices, due to the drop in yield, may, according to some of the distilling perfumers, see a slight reaction upward, although in a number of instances holdover stocks still in existence will tend to keep the prices at practically a stationary figure, unless an unusual amount of activity is demonstrated in connection with this highly important essential oil. Jasmine, as has been explained in previous reports, is looked upon as being one of the three most important crops grown in the Grasse district, and the quantity and quality of the jasmine yield is watched with a great deal of interest by everyone concerned.

Jasmine Cost Factors

Now that the jasmine crop has been gathered and handled by the distilling perfumers, one hears more than ever the old complaint that prices paid to the growers are practically ruinous to a satisfactory continuation of the jasmine plantations, which, furthermore, suffered considerably in certain districts from the cold of last winter. True, some of these complaints should be discounted, but one can not get away from the fact that dissatisfaction exists. As pointed out previously, this year's price to the growers was 15 francs per kilogram, as compared to 17 francs last year. This condition, together with the care demanded by the jasmine plantations, has certainly not contributed any to the peace of mind of the growers in and near Grasse, particularly when the labor question does not seem to show any signs of improving.

Fifteen francs translated into American money means approximately 60 cents, and to give our readers an idea of just what a kilogram of jasmine represents in the way of labor it should be borne in mind that it requires anywhere from 8,000 to 8,500 flowers to tip the scales at one kilogram. Furthermore, the gathering of the jasmine must be done entirely by hand, and a great deal of care exercised so that this fragile flower is not bruised in any way, as it readily turns brown when injured, thus cutting down its original high perfume value.

The gathering of the tuberose for this year was terminated during the first days of October, the crop being considerably below that of last year insofar as yield is concerned. Quality is stated to be normal in every respect. As stated in former reports, the demand for the essential oil secured from the tuberose is not nearly as active as it used to be. The small crop of this year, however, may have some effect, eventually, upon the prices, especially if a sudden call for this oil should appear upon the market. According to some of the distilling perfumers in France, however, sufficient stocks are available to meet any condition of this kind. It will be remembered that several months ago it was pointed out that one large manufacturing perfumer was using this essential extensively, and this factor may also tend toward a rise in price at some time in the future, if not at present. Apparently, this culture is showing less in yield each year, due to the decrease in demand and also to the fact that the tuberose is a very difficult plant to grow successfully. The price paid the growers this year was 17 francs (about 68 cents) per kilogram.

Mint Production Decreasing

Disappointment was felt at the results achieved this year with mint in the Grasse district, as the mint from this section is considered to be of very high quality. Due, however, to an uneven and unsatisfactory market, the growers are gradually abandoning this culture. In fact, the acreage formerly devoted to the mint was extensive, but in the last few years this plant has been slowly, but surely, dropping down as to yield. Back in 1918, according to Antonin Rolet, the Alpes-Maritimes district produced from 1,000,000 to 2,000,000 kilograms of mint, most of it being treated by the distilling perfumers of Grasse, and giving 3,400 to 4,000 kilograms of oil. These figures do not apply in any way to-day, some 11 years after. The principal centers for growing the mint are the valleys of the Loup and the Siagne. During the past year the Siagne district has been subject to the ravages of a caterpillar or worm, causing a great deal of damage to the mint plantations in that section. Efforts are being made by a number of persons interested to conserve this culture, but what the results of these will be remains a matter of conjecture for the time being, at least.

Rose-Geranium Crop Diminishing

At this writing the rose-geranium is in full bloom and being treated by the distilling perfumers. This flower, very much esteemed by the trade, has also suffered a diminishing yield during the past few years. The distilling perfumers, however, are doing everything within their power to keep this culture at a satisfactory level of production, and, although, this year's crop will be relatively unimportant, it is hoped that the future will tell another story. Of course, it must be borne in mind that this flower is being very successfully grown in the French colonies in Northern Africa, as pointed out in our September and October issues, this factor contributing somewhat to what might be called a natural abandonment of the rose-geranium in the Grasse district.

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Very few growers gave much time and space to the sweet basil this year, generally speaking, and the crop as a whole for this year is not very important.

The first cutting of vervain or verbena was not of the best, but, at the present time the second cutting is in progress, and this will give a satisfactory yield, according to all indications. The market on this plant is slightly below that of last year.

A number of the cultures coming under the head of perfume-flower plants are now in a state of rest. The rose-trees held up under the hard summer in a way that is regarded as being very favorable to next year's crop, and at the present time the plantations are normal. Preparations for carrying these plantations safely through the winter are now being made.

The jonquil is beginning to grow. This culture has been suffering from the attacks of coleoptera, which attack the bulbs. This is particularly true of the plants which have remained in the earth several years without being renewed, a condition which can not be watched too carefully. The flower appears during the months of March and April.

Recent rains have done a great deal of good with respect to the violet plants, and the growers are very well satisfied with their present condition.

Earthing up of the jasmine is being prepared for, and the plantations of clary sage, lavender, hyssop are ready for the usual winter care.

Real Damage to Orange

The orange trees, as the trade knows, suffered very much from the cold of last winter, particularly in districts near Cannes, Golfe-Juan, Vallauris. Now that the trees have passed through the heat of the summer months, one can more readily take stock of the actual damage done by the snow and cold. According to every indication, many of the trees suffered a great deal. In fact, a number of plantations with trees that were 30 to 40 years old will have to be renewed. In certain sections of the district like St. Laurent du Var, and Barsur-Loup, where the trees suffered less, everything points to a much better condition for next year, unless, of course, something occurs to upset this favorable view in the following months.

This past summer has, generally speaking, been below what is considered normal for the region. The thermometer registered in the neighborhood of 30° C. in the shade during the day, and in the neighborhood of 20° C. during the night. A hailstorm on the 21st of August hit certain sections of the Grasse district pretty hard, causing considerable damage to some of the cultures, as reported in the September issue.

Rogers & Gallett Infringes

Parfumerie Roger & Gallet, registrant of the trade mark "Le Jade" for toilet preparations, has been restrained from further use of the mark because of its deceptive similarity to "Jade 'or", when used on perfumes. "Jade 'or", is the mark of George Borgfeldt & Co.

The cancellation of a trade mark on the ground of its similarity with another prior mark cannot be avoided by one party closely associating its corporation name with the mark of the other party, the Assistant Commissioner of Patents has held. His action affirmed the decision of the examiner of interferences sustaining the petition for cancellation of the trade mark "Le Jade" for toilet preparations.

While confusion between trade marks may not exist to-day, it may occur to-morrow, the opinion comments, and a registered mark must be cancelled if not registrably distinct from a prior used mark.

The decision of the acting examiner of interferences was affirmed, and registration nos. 208662, 208663 and 208664 were cancelled, subject to the right of appeal.

Iodine Research

Iodine Educational Bureau announces that a fellowship has been established at the Philadelphia College of Pharmacy and Science for research work on iodine. J. J. Nichols, director of the bureau, states that the purpose of this fellowship is to make a study of the various solvents for iodine which would render the element non-irritating and non-caustic when applied locally, and non-poisonous when administered internally.

It has been claimed by some authorities, states Mr. Nichols, that tincture of iodine, containing as it does potassium iodide, when coming in contact with the stomach forms iodic acid, which is extremely poisonous and which irritates the membrane of the stomach, As a consequence, an iodine preparation which does not contain alcohol or potassium iodide must be produced before internal medication can be increased to any degree.

Ergot Pharmacology

(*Continued from page 459*)

deterioration results in an apparent increase in alkaloidal activity when tested by the Cock's Comb Method. The activity as shown by this method becomes stabilized after the amines have deteriorated (usually eight months or less). A slow decrease in strength then begins, depending upon storage conditions, due to deterioration of the alkaloids.

11. Regardless of variety or origin, almost every sample of ergot on the American market was found to contain an appreciable although varying amount of amine activity. A fairly large percentage contained enough amines to interfere seriously with the estimation of alkaloidal content by the Cock's Comb and other methods unless removed before assay.

The series of succeeding reports will embrace the following subjects in the order mentioned:

Part II. "A Biological Method for the Estimation of the Non-specific Amine Activity of Ergot and Its Preparations."

Part III. "A New Method for the Estimation of the Specific Alkaloidal Activity of Ergot and Its Preparations, Using the Isolated Guinea-Pig Uterus."

Part IV. "A Method for the Preparation of a Purified Fluidextract of Ergot."

Part V. "A Comparative Pharmacological Study of Crude Ergot and Fluidextract of Ergot, U. S. P. X," by:

A. The Cock's Comb Method.
B. The Isolated Rabbit Uterus Method of Broom and Clark, and Modifications.
C. The Pressor Method to Anesthetized Dogs.
D. The Isolated Guinea-Pig Uterus Methods of Thompson.

Part VI. "A Pharmacological Study of Extractum Ergotae Aquosum, N. F., Fifth Edition", by:

A. The Cock's Comb Method.
B. The Isolated Rabbit Uterus Method of Broom and Clark, and Modifications.
C. The Pressor Method to Anesthetized Dogs.
D. The Isolated Guinea-Pig Uterus Methods of Thompson.

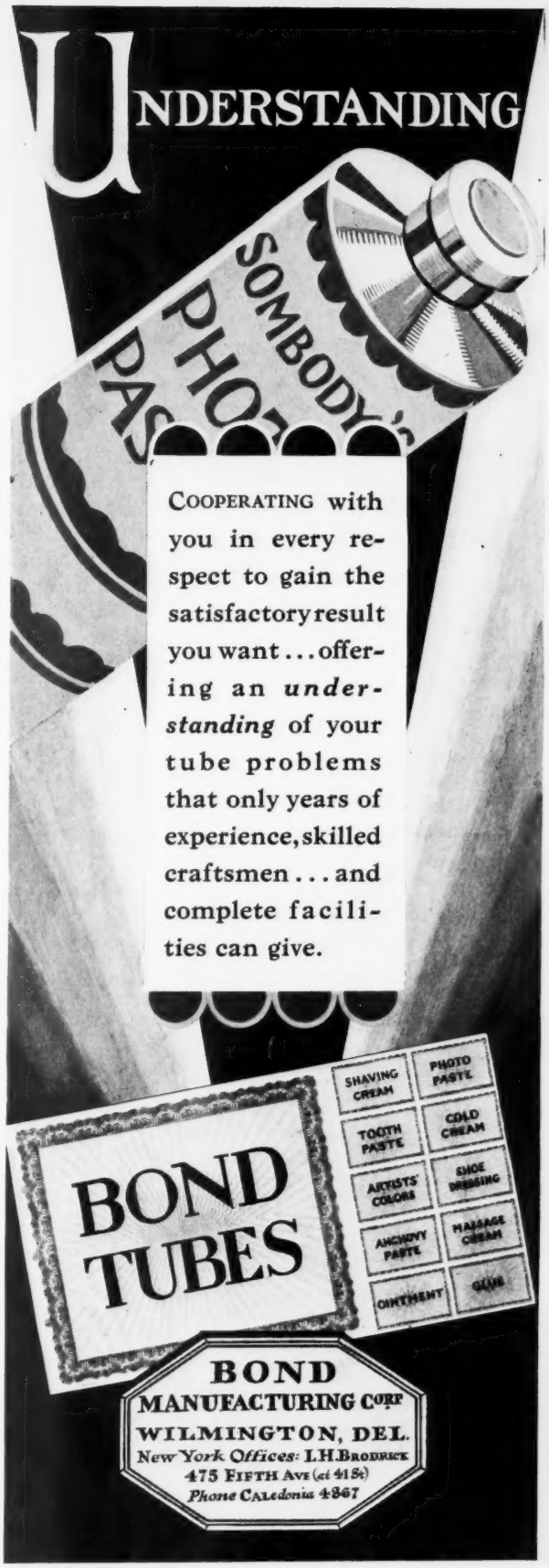
Part VII. "A Pharmacological Study of Purified Fluidextract of Ergot," by:

A. The Cock's Comb Method.
B. The Isolated Rabbit Uterus Method of Broom and Clark, and Modifications.
C. The Pressor Method to Anesthetized Dogs.
D. The Isolated Guinea-Pig Uterus Methods of Thompson.

Part VIII. "A Consideration of Standards for the Biological Assay and Standardization of Fluidextract of Ergot, U. S. P."

Part IX. "A Study of the Stability of Crude Ergot and Its Preparations: Changes brought About by Aging."

Part X. "Discussion of Results; with Conclusions and Recommendations."



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Part II. A Biological Method for the Estimation of the Non-Specific Amine Activity of Ergot and its Preparations

The nature and identity of the physiologically active constituents of ergot were discussed in the first paper of this series (37). Experimental evidence shows that the ergot alkaloids are the constituents which are specific for the drug and responsible for the desired clinical effects of its preparations. The amines or amino-bases identified with the drug are regarded as being non-specific for Ergot, as their presence has been found to be inconstant by Spiroe and Stoll (5) and others (16). The author has found also that the non-specific amine activity of crude Ergot varies enormously. Though a few samples were found to be practically free from active amines, most of those examined contained far too much amine activity to be disregarded.

A comparatively large number of amines or amino-bases, including histamine (ergamine), tyramine, acetyl and other cholines, agmatine, guanido-butylamine, and iso-amylamine, have been identified in Ergot. The literature, (1, 16, 13) however, leads to a belief that only histamine, tyramine, and possibly the cholines are sufficiently active, or have been shown to be present in adequate amounts to have any important share in the pharmaco-dynamic action of ergot preparations. Broom and Clark (13) have shown that the activity of B. P. Liquid Extract of Ergot is due almost entirely to the amines present, and that the U. S. P. Fluidextract of Ergot owes its activity to both groups of active principles—the alkaloids *and* the amines. Nelson and Pattee (28) state that "though no statement of the relative amounts of the two substances (histamine and tyramine) present in ergot preparations is available, it is usually accepted that more activity may be ascribed to the histamine present than to the tryamine", because of the greater activity and occurrence of histamine.

In determining the amine activity of ergot or its preparations, it has not been found practical to use chemical methods because of the complexities encountered. Biological methods show more promise of adaptability, but results by these methods are often greatly influenced by the possible presence of the other group of active constituents—the specific alkaloids.

It is very difficult to separate quantitatively the two groups of pharmaco-dynamically active principles of ergot. Therefore accurate information on amine and alkaloidal activity may be obtained only by using methods that will measure the individual activity of the amine group, irrespective of the presence of the alkaloidal group, and vice versa. Up to the present time no suitable methods have been developed for the quantitative estimation of the amine activity of ergot preparations in the presence of the alkaloids, nor has a practical method been reported for the separation of the two groups of con-

stituents, to make individual assay possible. The methods which follow were developed to supply this lack.

The biological assay methods generally used in the estimation of physiological activity of ergot and its preparations are of three general types, as follows:

(1) The Cock's Comb Method, and modifications.

(2) The Uterine Methods, with modifications:
   (*a*) Excised or Isolated, of Cats, Rabbits or Guinea-Pigs.
   (*b*) *In situ*, of Cats, Rabbits, Guinea-Pigs, etc.

(3) The Pressor Methods:
   (*a*) Systemic Circulation of Cats, Dogs, etc.
   (*b*) Pulmonary Circulation of Cats, Dogs, etc.

The Cock's Comb Method is reputed to measure the alkaloidal activity of the preparations (28, 29, 30), and is therefore of no value in estimating the amine activity in the presence of the alkaloids.

The uterus *in situ* methods measure the resultant effects of both the amines and the alkaloids (26, 13). The excised or isolated tissue methods are of two types: (1) Those in which the activity of the ergot preparation is observed directly; and (2) those in which the well-known antagonizing or vasomotor reversal effect of ergot alkaloids upon the response of the tissue to epinephrine is utilized (13, 19, 14, 28, 33, 31). In those of the first type, in which the activity of the preparation is observed directly upon the isolated uterine strips of cats or guinea-pigs, a resultant effect of the amines and alkaloids is observed, the individual constituents of both groups stimulating the tissue to contraction (1, 5, 8, 13). In those of the second type, involving the vaso motor reversal principle, the specific alkaloidal activity only is measured, as the amines do not have the property of paralyzing the motor and inhibitory endings of the sympathetic to the action of epinephrine, the alkaloids alone being responsible for this effect (13, 31).

The Pressor Methods measure the resultant effect of all of the active principles of ergot. The alkaloids and tyramine produce a rise in blood pressure, while histamine produces a fall. The pressor effects of the amines are more transitory than those of the alkaloids, but, even so, an accurate quantitative estimation of eitheramine or alkaloidal activity of ergot preparations is practically impossible in many instances by this method.

Regardless of which of the pharmaco-dynamically active constituents of Ergot are responsible for the clinical activity of its preparations, all of them must be considered from the standpoint of biological assay, because it is possible for both the amines and the alkaloids to occur in sufficient amounts to manifest great activity by the currently used bio-assay methods. The author has developed a method which will measure the amine activity of crude ergot and its galenicals, irrespective of the specific alkaloidal content.

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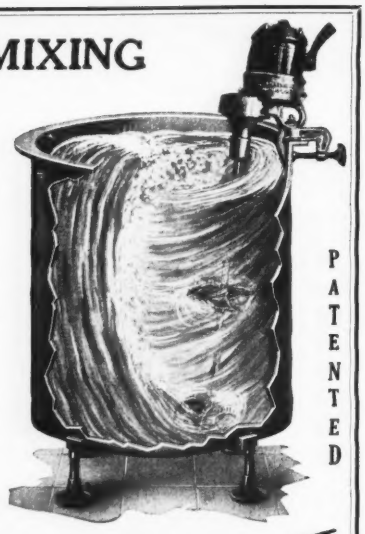

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Experimental

After many experiments involving the use of the various Pressor and Uterine Methods, a certain type of guinea-pig uterus was found adaptable for estimating the amine activity. Many of these biological methods have been described in the literature, but all were found to be inaccurate in the presence of the alkaloids. Using the isolated uterus of virgin guinea-pigs weighing from 200 to 300 grams, it was observed that the amines (histamine and tyramine) and the alkaloids (ergotamine and ergotoxine) all stimulated the tissue to marked contractions. In testing mixtures of these amines and alkaloids, the resultant effect of both groups was observed. In marked contrast to this observation, isolated uterine strips of large mature guinea-pigs, taken several weeks post-partem, were stimulated to contraction by the amines of ergot under certain conditions, but the alkaloids seemed to have no perceptible effect except to increase the tonus in spontaneous rhythmic contractions.

The first two contractions shown in Plate I were produced by identical concentration of histamine. Following these two contractions of equal magnitude, at 1.45 an amine-free Fluidextract of Ergot produced no contraction, although it was known to be rich in ergot alkaloids. At 1.50 a dose of ergotamine tartrate, a salt of one of the most active of the ergot alkaloids, produced no contraction. At 1.55 1.0 cc. of U. S. P. X. Standard Fluidextract, dilution 1 to 5, produced no perceptible effect. Thus, the alkaloids of ergot, or preparations free from active amines but known to contain significant quantities of ergot alkaloids, failed to produce contractions of this type of isolated uterus. Plate 1 also shows the following interesting phenomenon. At 2.10, following the addition of the three alkaloidal preparations to the bath, a repetition of the original dose of histamine produced a contraction only half as great as that produced before the alkaloidal preparations were added. At 2.20 a 50 per cent. increase of the histamine dose produced a contraction greater than that produced by the dose immediately preceding it, but less than that produced by the smaller dose before the strip was subjected to the action of the ergot alkaloids. Repeating the higher dose at 2.30 produced less effect than that produced at 2.20. Thus it is shown that *the alkaloids decrease the response of the isolated guinea-pig uterus of this type* in a manner anolagous to the vasomotor reversal effect of ergot alkaloids upon the epinephrine response of various tissues. The indications are, therefore, that histamine acts upon essentially the same mechanism as epinephrine, although epinephrine causes the guinea-pig uterus to relax instead of to contract. This hitherto unreported "ergot-alkaloid-histamine" reversal phenomenon has been utilized in the development of a method for the estimation of the alkaloidal activity of ergot preparations, which will be described in the third paper of this series. Pressor studies of this reversal will also be published in a later report.

As in the case of the ergot alkaloid-epinephrine reversal, the ergot alkaloids must act for some time before the histamine response is diminished. Hence the method may be utilized in the estimation of the amine activity of ergot preparations, even though the alkaloids also are present. An accurate estimation of the amine activity of crude ergot or its preparations may be obtained by observing in detail the method and procedure which follows:

METHOD

Muscle

The uteri of guinea-pigs weighing 500 to 800 grams, taken several weeks post-partem, are the most satisfactory. Uteri of smaller guinea-pigs, either nulliparous or multiparous, usually prove unsuitable, as they are often stimulated to contraction by both the amines and alkaloids of ergot. Pregnant uteri and those taken shortly after parturition are not suitable. Small, thin-walled uteri, as well as those showing diseased conditions, also must be discarded. As it is often very difficult to detect pregnancy in the animals, especially in the earlier stages, it has been

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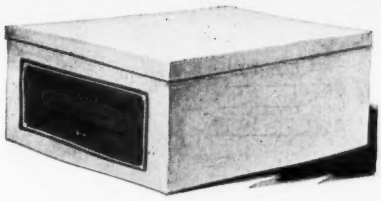

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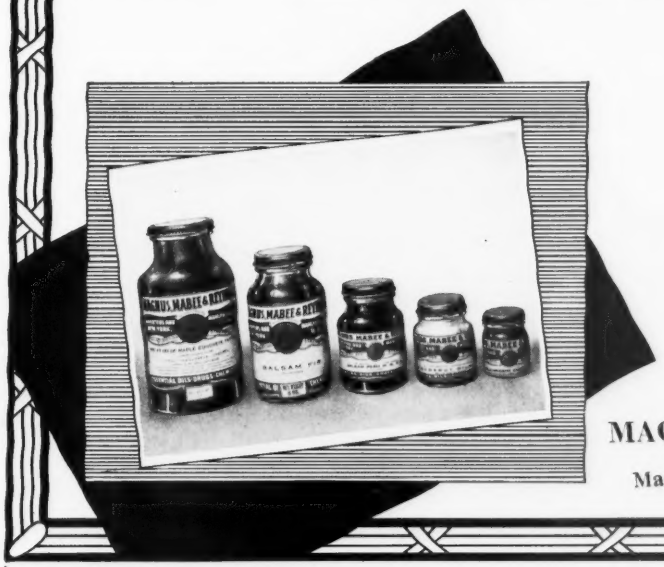

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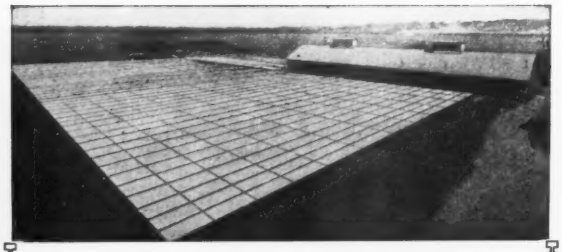

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found advantageous to segregate the female pigs shortly after parturition. Several weeks thereafter their uteri are usually suitable. Lactating animals are unsatisfactory. In general, the type of guinea-pig uterus best suited to this method is comparable to the type of rabbit uterus recommended for use in the Broom and Clark Rabbit Uterus Method for the estimation of ergot alkaloids (13, 28). From the larger guinea-pig uteri, eight to twelve suitable strips may be obtained, each horn being divided into two or three cross sections, which, in turn, are halved longitudinally by two parallel cuts, one directly along and one directly opposite the mesenteric attachment. The uteri may be kept on ice for three or four days in physiological salt solution, but it is best to use them before such a time has elapsed.

Apparatus

The apparatus is of the type usually employed for isolated tissue work, with two or more glass chambers of 50 cc. or 100 cc. capacity, mounted in a constant temperature bath, arranged to fill and empty from below. The smaller suspension chamber would save on the use of Locke's solution and would undoubtedly be fully as suitable as those of 100 cc. capacity. Those of 100 cc. capacity were used in this work. Dale and Laidlaw (20), Smith and McCloskey (21), and Pattee and Nelson (28), describe this apparatus in greater detail.

Method for Estimating Non-Specific Amine Activity

The similar uterine strips are suspended, one pair at a time, in separate chambers in oxygenated Locke's solution at 38° C. and arranged to record on a slow-moving kymograph in the usual manner. The tension on the strip is important, and can be determined by experience only. A dose of histamine which will produce a pronounced, but submaximal contraction for each strip is then determined. When the strips, after several trials, are found to produce contractions of constant submaximal magnitude from a given concentration, at a constant time interval between doses, the amine activity of the ergot preparation is ascertained by comparison. After each dose the strips are washed and the chambers refilled with Locke's solution. The use of two strips provides a check as well as a time-saving factor. If appreciable quantities of ergot alkaloids are present in the unknown, as is invariably the case in Fluidextract of Ergot, the first trial of the unknown on each strip is all that may be considered significant, because any alkaloids present diminish the amine response. If a certain sub-maximal dose continues to give constant contractions, as is often the case with aqueous extracts, it is indicated that active ergot alkaloids are not present. The amine activity is expressed in terms of histamine.

It is absolutely essential that all doses be added to the baths at definite time intervals. Exactly 10 minutes between each dose has been found satisfactory in most instances, although some uteri will contract and relax sufficiently in a shorter time. Whatever time interval is used, it must remain constant between each dose throughout the assay. Plate II shows the constant response to graded dosages obtained when a definite time interval is carefully observed.

The weighing of the levers is of paramount importance. It is impossible to state the amount of tension to be employed as, each strip will differ in this respect. In general, the levers must be weighted sufficiently to obviate appreciable spontaneous rhythmic contractions, but not so heavily as to cause symptoms of fatigue in the muscle. When the strips are found to react according to the dose added to the bath, and *constantly* to a given dose, they are ready for assay purposes.

If insufficiently weighted, the magnitude of contraction will not distinguish between varying doses. If weighted too much, the magnitude of contraction diminishes with each succeeding dose, when the doses are constant, or even when the dose is increased. Plate III shows the irregular response of a strip to constant dosage of histamine when improperly weighted.

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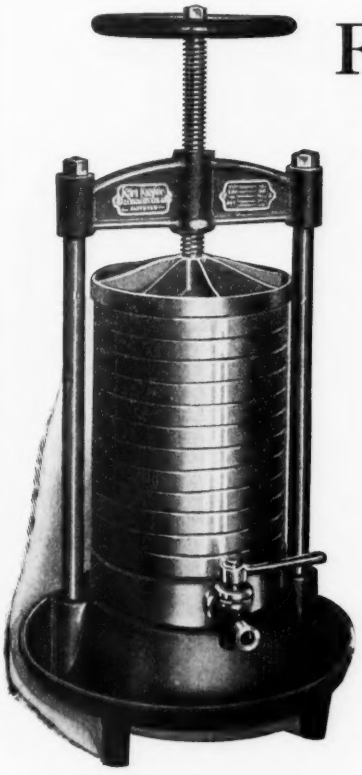

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Sodium bicarbonate	0.50
Dextrose	0.50
Glass-redistilled water to make	1000 cc.

This Locke's solution is freshly prepared each day from stock solutions of 20-fold concentration, exclusive of the sodium bicarbonate and dextrose. The sodium bicarbonate and dextrose are weighed out each time as required.

The oxygen used is passed through an aqueous 4 per cent. sodium bicarbonate solution, and then conducted to the tissue chambers, where it is evolved through the Locke's solution surrounding the tissue. The rate is kept at approximately 20 bubbles per minute.

Determination of Non-Specific Amine Activity of Crude Ergot Preparation of Test Extract

Grind the crude ergot and de-fat or de-grease as directed in the U. S. P. for Fluidextract of Ergot. A 50-gram portion is convenient. After the benzine odor has left the drug, add enough 10 per cent. sodium bicarbonate solution to render the powder evenly and distinctly moist and to keep it so during 2 to 4 hours' maceration in a refrigerator. Then pack the moist drug loosely in a small glass percolator provided with a glass stop-cock. Add cold distilled water to the percolator, and, when the liquid begins to drop from the lower orifice, interrupt percolation and let maceration proceed for an additional 6 hours in a refrigerator. Allow the percolation to proceed at a rate of 15 drops per minute until a small portion directly from the percolator is found to be inactive on the guinea-pig uterus by the method previously described.

The amine activity of crude ergot, as well as the rate of extraction of the drug, varies enormously. It is therefore practically impossible to specify the amount of percolate to be obtained. All operations must be carried out as refrigeration temperature and the percolate must be stored in a refrigerator until the assay has been completed. At higher temperatures fermentation and putrefaction develop, resulting in increased amine activity. The percolate or aqueous extract thus prepared will be found to be practically devoid of active ergot alkaloids.

Knowing the volume of percolate collected from the specified amount of drug used in the assay, determine the amine activity by the guinea-pig uterus method described, expressing the result in terms of milligrams of histamine per gram of ergot or as the percentage of amine activity in terms of histamine.

Plate II shows an example of the estimation of the amine activity of a crude ergot by the methods described. Note that the uterine strip is shown to be unresponsive to the alkaloidal preparation at 1.00. After the alkaloidal dose, however, a 0.75-cc.

(*Continued on page 488*)

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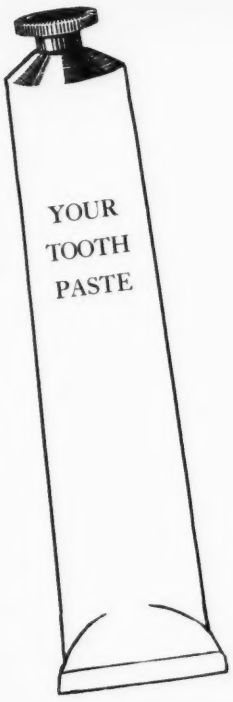

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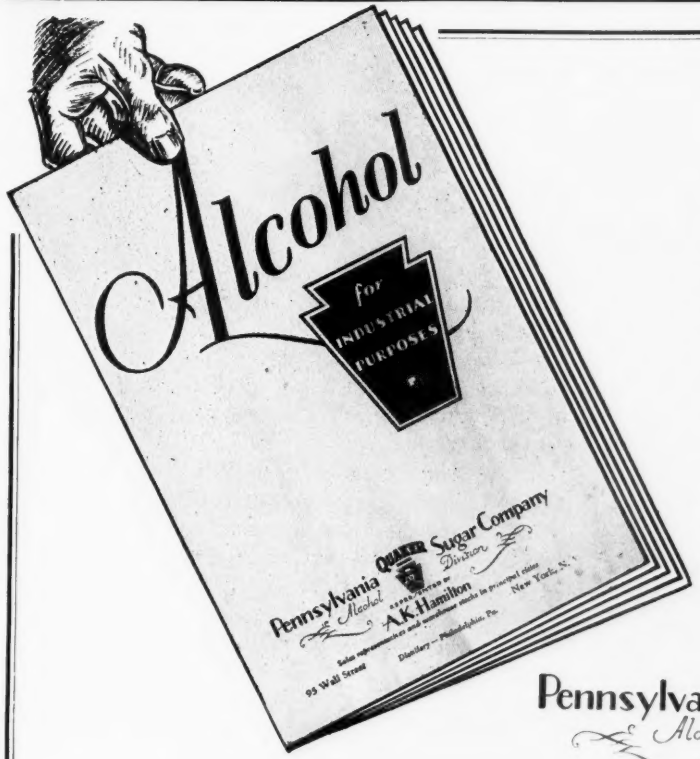

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dose of histamine solution at 1.05 produced a contraction no greater than the 0.5-cc. dose originally produced, showing partial paralysis of the motor-sympathetic endings by the alkaloids to the effect of histamine.

Determination of Non-Specific Amine Activity of Solid, Semi-Solid or Liquid Aqueous Extracts of Ergot

Triturate an exact weight of the solid or semi-solid extract in a glass or agate mortar with a definite amount of Locke's solution (1.25 is a convenient concentration) until the extract is dispersed. (This applies only to the solid or semi-solid extracts, the others already being in a state of solution.) Carefully but completely neutralize any acidity by the cautious addition of powdered sodium bicarbonate, and filter. Do not bring up to volume by adding more Locke's solution after filtration.

Determine the amine activity by the guinea-pig uterus method as described for crude ergot. Results are conveniently expressed as percentage of amines calculated as histamine. The amine activity of all ergot preparations varies greatly. In determining this activity, the doses and concentrations must be varied according to the activity fund. No alkaloidal interference should be encountered if this method is carefully followed.

Determination of Non-Specific Amine Activity of Fluidextract of Ergot and other Alcoholic Preparations of Ergot

Pippette 10-cc. of the preparation into a small beaker and dealcoholize by using a warm-air blast (a barber's hair dryer serves admirably). Carefully neutralize any acidity by the cautious addition of powdered sodium bicarbonate. Bring up to the original volume with Locke's solution, mix thoroughly and filter.

Determine the amine activity by the guinea-pig uterus method as directed for crude Ergot. The amine activity is conveniently expressed in percentage, calculated as histamine. These preparations will also be found to vary enormously in active amine content, some being devoid of such activity while others contain more than the equivalent of one milligram of histamine per cubic centimeter of preparation. Plate IV shows an assay of the amine activity of a sample of U. S. P. Fluidextract of Ergot. Note the absence of alkaloidal interference, shown by the constancy of the magnitude of contraction to graded dosage of the processed preparation.

Summary

A type of guinea-pig uterus is described which, under specified conditions, is stimulated to contraction directly by the non-specific amines of ergot, but is not so affected by the specific ergot alkaloids. The alkaloids increase the tonus in rhythmic contraction of the muscle, but do not stimulate prompt tonic contractions directly.

The alkaloids of ergot were found to inhibit the response of the guinea-pig uterus to histamine in a manner analogous to the well-known vasomotor reversal relation between ergot alkaloids and epinephrine upon various tissues.

A method is described for the estimation of non-specific amine activity of ergot and its preparations, including methods for the preparation of the test solutions which largely obviate alkaloidal interference. Histamine was used as the standard for comparison because it is responsible for the greater amount of the amine activity of ergot, and, further, because it is readily available.

Editor's Note:-

The next investigation will appear in December issue.

Signature Always Distinctive

The facsimile signature of "E. W. Williams" has been held by the Assistant Commissioner of Patents not to be deceptively similar to the mark "Williams" as registered under the 10-year clause of the act of 1905, both marks being used on shaving soap and toilet articles.

The decision of the acting examiner of interferences sustaining the opposition to the registration of the signature as a trade-mark was reversed on appeal.

A facsimile signature is stated in the opinion to be regarded as a name written in some particular or distinctive manner. The facsimile signature was held to possess such distinctiveness as not to be confused with marks otherwise portrayed, but only with marks consisting of signatures of like appearance.

Suit of the J. B. Williams Company, vs. Ernest W. Williams.

United Medicine Manufacturers' Association officers for the current year were elected at the recent annual meeting of the association as follows:

President—C. H. Littick, Jackson Medicine Co., Zaneville, O.

Eastern Vice-President—Bernard Groblewski, Albert G. Groblweski & Co., Plymouth, Pa.

Central Vice-President—I. R. Blackburn, Blackburn Products, Dayton, O.

Southern Vice-President—W. W. Burgess, The Knox Co., Kansas City, Mo.

Western Vice-President—W. D. McKendrick, Wolfe's Laboratories, Los Angeles, Cal.

Treasurer—George W. Reese, Reese Chemical Co., Cleveland.

Secretary—James F. Pickett, Munyon Remedy Co., Scranton, Pa. Counsel, Clinton Robb, Washington, D. C.

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In testing "ALBINOL" the C. P. Sulphuric Acid used does not even approach a "Pale Amber" and except for a "slight haze" *remains the same color as originally.* It is therefore **MUCH BETTER** than U. S. P. A comparative test against other oil is welcomed.

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Prices Current

Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment.

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Acetanilid
Ammonium Valerate

Chemicals

Monthly Review

Glycerine in Weak Position

Chemically pure glycerine remains unchanged in price at 14c per pound in bulk. This price can undoubtedly be shaded, however. A good sized order would cause competitive bidding that would materially reduce this price. It is the opinion in some quarters that the market does not present as strong a tone as it should at this, the most active season of the year for glycerine. This is attributed principally to the fact that the anti-freeze trade have not withdrawn glycerine as yet in any considerable quantities. The weather has been mild and glycerine for motor radiators has not been flowing into consuming channels.

The exports of glycerine from the United States during September 1929, amounted to 64,899 lbs., against 32,555 in September 1928. The imports for that month were 888,304 lbs. of crude and 137,556 lbs. of refined glycerine, totalling 1,025,860 lbs., versus 396,423 lbs. for both crude and refined for the same month last year. In August 1929, the exports of glycerine amounted to 46,497 lbs. against 138,517 lbs. in August 1928. The imports for that month were 1,140,986 lbs. of crude and 119,734 lbs. of refined, totalling 1,260,720 lbs. against 164,766 lbs. for both crude and refined for the same months last year.

Lower prices abroad accounts for the decline in exports and the increase of imports of this commodity. The export trade, however, is never a large factor in the situation. Stocks here are plentiful and entirely ample to take care of any exceptional demand.

Alcohol is Steady

Alcohol presents a strong front in all markets, with prices being maintained at top set in September. Activity at present is centered in the anti-freeze business with shipments reported going forward briskly. The newspaper advertising campaign on anti-freeze has gotten under way in the Metropolitan dailies with the result that motorists are conscious of the necessity for protection so that with the first cold snap distribution will flow in large quantities into consuming channels.

Camphor from Taiwan

During the year 1927 (the latest year for which figures are available compared with 1926 were as follows:

	1926		1927	
	Pounds	Yen	Pounds	Yen
Camphor	2,830,472	3,630,810	3,263,856	2,973,466
Camphor oil	8,462,881	3,036,640	7,464,593	1,950,530

Exports of crude camphor and camphor oil to the U. S. during period under discussion were:

	1926		1927	
	Pounds	Value	Pounds	Value
Camphor, Crude	1,184,000	$701,000	1,447,000	$605,776
Camphor Oil	44,000	3,247	210,000	31,424

Average value of yen:—1926—$.4712; 1927—$.4741.

(Vice Consul W. F. Mason, Taihoku, Taiwan).

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Acetanilid, USP, 200 lb bbls. lb.	.36	.37	.37	.36	.37	.28
Acetone, pure 350 lb drs wks.	.15	.15½	.19	.15	.18	.14
Acetphenetidin, 225 lb bbls. lb.	1.25	1.3	1.35	1.25	1.40	1.25
ACID, Acetylsalicylic, 225 lb bbls.	.85	.90	.90	.85	.90	.85
Agaric, 1 oz vials oz.	.....	3.50	3.50	3.50	3.50	3.50
Arsenous, USP, 220 lb bbls lb.	.....	.18	.18	.18	.18	.18
Benzoic, USP, 100 lb bbls. lb.	.60	.61	.61	.60	.61	.60
Boric, 300 lb bbls. lb.	.07½	.08	.10½	.07½	.12	.11
Cacodylic, 5 lb. bot. lb.	.....	8.00	8.00	8.00	8.00	8.00
Camphoric, USP, VIII 1 lb bot. lb.	4.82	4.82	4.82	4.82	4.82	4.82
Carbolic, USP, crys 112 lb tins. lb.	.17	.18	.19	.14	.21	.14
Cinnamic, 5 lb cans. lb.	3.25	3.50	3.50	3.25	3.50	3.25
Citric, USP, crys 230 lb bbl lb.	.....	.46	.46	.46	.46	.44½
USP, crys imp. 112 lb keg lb.	.59	.61	.61	.59	.61	.55
USP, powd 200 lb bbl. lb.	.....	.47	.47	.47	.47	.45½
Diethylbarbituric, 1 lb bot lb.	.....	4.60	4.60	4.60	4.60	4.60
Gallic, USP, 150 lb bbls. lb.	.....	.74	.74	.74	.74	.74
Glycerophosphoric, 25% 1 lb bot. lb.	1.40	1.75	1.75	1.40	1.45	1.40
Hydriodic, USP, 10% 5 lb bot. lb.	.....	.80	.80	.80	.80	.80
Hydrobromic, USP, 40% 155 lb. cbys. lb.	.....	.55	.55	.55	.55	.55
Hypophosphorous, USP, 30% lb.						
5 gal demis. lb.	.....	.85	.85	.85	.85	.85
Lactic, USP, VIII 100 lb cbys lb.	.56	.62	.62	.56	.62	.56
USP, X 100 lb cbys. lb.	.62	.64	.64	.62	.64	.62
Phenylcinchonic lb.	.....	4.50	4.50	4.50	4.50	4.50
Phosphoric, USP, Syr 70 lb drs. lb.	.14	.15	.15	.14	.16	.14
Pyrogallic, crys 5 lb cans. lb.	1.40	1.50	1.50	1.40	1.50	1.40
Resublimed, 5 lb cans. lb.	1.80	1.85	1.85	1.80	1.85	1.80
Salicylic, USP, 100 lb bbls. lb.	.39	.40	.40	.39	.41	.40
Succinic, 100 lb bbls. lb.	.....	1.35	1.35	1.35	1.35	1.35
Sulfurous, USP, 6% 100 lb cbys. lb.	.05	.06	.06	.05	.06	.05
Tannic, USP, fluffy 50 lb bbls. lb.	.85	.90	.93	.85	.93	.87
Powd 200 lb bbls. lb.	.80	.85	.85	.80	.85	.80
Tartaric, USP, 300 lb bbls. lb	.37½	.38½	.38	.37½	.38	.35
Aconitine, Alk, crys 1 oz vials oz.	.....	30.00	30.00	30.00	30.00	30.00
Amorphous, 1 oz vials. oz.	.....	20.00	20.00	20.00	20.00	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.15	.16	.16	.15	.16	.15
Anhydrous, 350 lb bbls. lb.	.16	.18	.18	.16	.19	.16
Agaricin, 1 oz vis incl. oz.	.....	2.32	2.32	2.32	2.32	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.25	1.35	1.35	1.25	1.55	1.25
Ethyl, USP, 190 pf 50 gal bbls. gal.	2.69½	2.79½	2.79½	2.69½	2.79½	2.66½
Pure tax free. gal.	.61	.69	.69	.61	.77	.54
Grain drums. gal.	2.69	2.79	2.79	2.69	4.00	2.67
Denatured, drums add 7c for bbls.						
No. 1 spec. gal.	.52	.60	.60	.47	.55	.43
1 comp. gal.	.53	.61	.61	.48	.56	.44
No. 5 comp. gal.	.52	.60	.60	.47	.56	.44
23 a, spec. gal.	.53½	.61½	.61½	.48½	.68	.43½
39 b, spec. gal.	.56	.65	.71	.62	.71	.56
40 m, spec. gal.	.51½	.59½	.66½	.56½	.66½	.51½
Isopropyl refd 98-99% drs gal.	1.25	1.50	1.50	1.25	1.50	1.25
Phenylethyl, 1 lb bot. lb.	8.00	10.00	10.00	8.00	10.00	8.00
Aloin, USP, 100 lb cases. lb.	1.90	1.95	1.95	1.25	1.30	.90
Aluminum Acetotartrate kegs lb.	...	1.60	1.60	1.60	1.60	1.60
Amidipyrine, 10 lb boxes. lb.	4.25	4.45	4.45	4.25	4.75	4.25
AMMONIUM, Acetate 100 lb kegs. lb.	.38	.40	.40	.30	.38	.34
Benzoate, USP, 1 lb bot. lb.	.....	1.27	1.27	1.27	1.27	1.27
Borate, 10 lb bot. lb.	.....	.35	.35	.35	.35	.35
Bromide, USP, 450 lb bbls. lb.	.47	.49	.50	.47	.50	.48
Imported, 112 lb boxes. lb.	.48	.50	.50	.48	.50	.48
Carb, USP, lump 100 lb kegs lb.	.....	.13½	.13½	.13½	.13½	.13½
USP, powd 100 lb kegs. lb.	.....	.14½	.14½	.14½	.14½	.14½
Citrate, 100 lb kegs. lb.	.85	.90	.90	.85	.90	.85
Ichthyolate, as to brand. lb.	4.00	4.50	4.50	4.00	4.50	4.00
Iodide, USP, 25 lb jars. lb.	.....	5.20	5.20	5.20	5.20	5.20
Phosphate, dibasic 250 lb bbls lb.	.48	.58	.50	.43	.48	.43
Salicylate, USP, 100 lb kegs lb.	1.15	1.20	1.20	1.15	1.20	1.15
Valerate, USP, 25 lb jars. lb.	2.75	2.90	2.90	2.75	2.90	2.75

Monthly Review

In connection with this it is of interest to note that the imports into the United States of camphor, menthol, and pyrethrum flowers for the first eight months of 1928 and 1929 were:

	1928 (8 months)		1929 (8 months)	
	Pounds	Value	Pounds	Value
Pyrethrum flowers	9,316,000	$2,338,000	4,451,000	$1,190,000
Camphor, natural	2,803,000	1,073,000	3,631,000	1,357,000
Synthetic	929,000	338,000	2,700,000	939,000
Refined	780,000	389,000	1,162,000	638,000
Menthol	191,000	666,000	175,000	765,000
Agar agar	309,500	220,600	381,000	304,000

The bulk of the imports shown above had their origin in Japan except that Germany accounted for approximately all of the synthetic camphor imported and Yugoslavia was the source of approximately 10 per cent. of the pyrethrum flower imports.

Greater Quinine Imports

Imports of quinine sulphate into the United States during the first eight months of 1929, compared with a similar period of 1928, were 1,136,000 ounces, value $412,000, and 1,584,000 ounces, value $544,000, respectively, or an increase for the 1929 period amounting to 448,000 ounces and $132,000.

A perusal of the accompanying table reveals that whereas 1928 the Netherlands accounted for considerably less than 50 per cent. of the United States total imports of quinine, this country is again the principal source of this commodity, accounting for over 80 per cent. of the 1929 six months' imports. The decrease in purchases from Japan particularly stand out.

	1928		1929 (6 months)	
	Ounces	Value	Ounces	Value
Germany	292,000	$100,000	100,000	$ 34,000
Netherlands	884,000	318,000	1,197,000	409,000
Switzerland	220,000	74,000	93,000	33,000
Japan	405,000	151,000	65 000	24,000
United Kingdom	1,000	1,000	.....	.....
Total	1,802,000	$644,000	1,455,000	$500,000

Imports of all other quinine and other alkaloids and salts from cinchona bark were as follows: 1928 (8 months) 482,724 ounces, value $179,236; 1929 (8 months) 863,664 ounces; value $269,009.

Iodine Price Basis Changed

The chilean producers of iodine have changed their price basis effective January 1, 1930. Iodine has always been sold to the trade on a basis of one shilling per ounce. Starting January 1 the price will be on the basis of £ 15s 3½d per kilo. This is so close to the same price as was formerly in effect that it will not make a difference of as much as $1,000 per annum on the entire business done in this country by the Chilean producers. The only reason for the change is that the new agency in this country conducts all its business in terms of the metric system.

Strychnine alkaloid has been reduced 5c per ounce, crystals being quoted at 61c per oz. in bulk, and the powdered 51c per oz. in bulk. Strychnine sulphate has also been reduced 4c per ounce to 52c for the crystals and 42c per ounce for the powdered grade. This reduction is attributed entirely to stocks on hand as nux-vomica has not fluctuated in some time.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Amylene Hydrate, 1 lb bot..lb.	.....	7.10	7.10	7.10	7.10
Antipyrine, USP, 100 lb cans.lb.	2.65	3.00	3.00	1.53	1.53
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70	22.70	22.60	35.80
Arecoline Hydrobrom, 1 oz vials .....oz.	7.75	8.75	8.75	7.75	11.45
Aspidospermine Amorphous..oz.	.....	15.00	15.00	15.00	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	7.00	9.10	9.10	7.00	9.10
Methyl bromide, 1 oz vials.oz.	.....	25.00	25.00	25.00	25.00
Sulfate, 5 oz cans.....oz.	.....	3.00	3.00	3.00	3.00
Single ounce.....oz.	.....	3.15	3.15	3.15	3.15
Barium Iodide, 5 lb box.....lb.	.....	5.15	5.15	5.15	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10	.10	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.85	.90	.90	.85	.90
Domestic syn. 50 gal bbl..gal.	.70	.75	.75	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90	.90	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60	2.60	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	.....	1.00	1.00	1.00	1.00
Benzyl Benzoate, Medicinal FFC.....lb.	.....	1.40	1.40	1.40	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35	.35	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50	3.50	3.25	3.50
Succinate, 160 lb cby.....lb.	.....	5.25	5.25	5.25	5.25
BISMUTH, metal 100 lb cases .....lb.	.....	1.70	1.70	1.70	2.25
Ammon. Citrate, USP, 5 lb cans.....lb.	.....	5.50	5.50	5.50	5.65
Betanaphthol ate, 5 lb box.lb.	.....	3.10	3.10	3.10	3.35
Citrate, USP, 5 lb cans....lb.	.....	2.75	2.75	2.75	2.95
Chloride.....lb.	.....	3.15	3.15	3.15	3.40
Hydroxide.....lb.	.....	3.05	3.05	3.05	3.30
Nitrate, 25 lb jars.....lb.	.....	1.80	1.80	1.80	1.95
Oxide anhydrous.....lb.	.....	3.40	3.40	3.40	3.70
Oxychloride, 25 lb boxes...lb.	.....	3.10	3.10	3.10	3.35
Salicylate, 25 lb boxes.....lb.	.....	1.80	1.80	1.80	1.95
Subcarbonate, USP, 25 lb boxes.....lb.	.....	2.20	2.20	2.20	2.70
Subcarbonate, X-ray diag 1 lb. bot.....lb.	.....	3.45	3.45	3.45	3.65
Subgallate, USP, 25 lb boxes .....lb.	.....	2.50	2.50	2.50	2.70
Subiodide, 5 lb lots.....lb.	.....	4.25	4.25	4.25	4.40
Subnitrate, USP, 25 lb jar.lb.	1.58	1.60	1.65	1.58	2.30
Subsalicylate, USP, 25 lb boxes.....lb.	.....	2.90	2.90	2.90	3.15
Tannate.....lb.	.....	2.65	2.65	2.65	2.65
Borax, crys USP, 400 lb bbls.lb.	.....	.03½	.03½	.03½	.05
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90	1.90	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00	5.00	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	.....	4.55	4.55	4.45	4.55
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	2.75	2.80	2.95	2.75	3.20
Citrated, 50 lb cans.....lb.	2.35	2.60	2.60	2.00	2.25
Hydrobromide, 1 lb bot...lb.	4.80	5.00	5.00	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55	6.55	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90	5.90	5.40	5.90
Sodium Benzoate, tins....lb.	.....	3.05	3.05	3.05	3.05
Salicylate, tins.....lb.	.....	2.95	2.95	2.95	2.95
Calcium Bromide, 100 lb cs..lb.	.....	.60	.60	.60	.60
Carb, USP, 175 lb bbls....lb.	.04½	.06½	.06½	.04½	.06½
Glycerophos, 250 lb bbls...lb.	.....	1.40	1.40	1.40	1.40
Hypophos, USP, 25 lb cans lb.	.60	.65	.65	.60	.65
Iodide, 5 lb bot.....lb.	.....	4.35	4.35	.35	4.35
Lactate, USP, 500 lb bbls lb.	.45	.50	.50	.45	.50
Lactophosphate Soluble...lb.	.....	1.20	1.20	1.20	1.20
Powdered tins.....lb	.....	1.00	1.00	1.00	1.00
Insol, powd tins.....lb.	.....	.50	.50	.50	.50
Sulfide, USP, 100 lb drs...lb.	.21½	.24	.24	.21½	.25
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.63	.63½	.63½	.59½	.66
Refined powd.....lb.	.65	.66	.66	.63	.70
½ oz tab, 100 lb cases....lb.	.76	.77	.77	.73	.75
Liniment, bbls.....gal.	2.20	2.30	2.30	2.20	2.30
Monobrom, 100 lb cases...lb.	1.85	1.90	1.90	1.85	1.90
Casein edible, 100 lb kegs...lb.	.45	.55	.55	.45	.55
Charcoal Animal medicinal jars incl.....lb.	.....	.50	.50	.50	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.05½	.06	.06	.05½	.06
Chloroform, USP, 50 lb drs...lb.	.25	.27	.30	.25	.30
Chloral Hydrate, USP, 25 lb jars.....lb.	.75	.80	.80	.75	.80
100 lb drums.....lb.	.55	.60	.75	.70	.75
Cholesterin.....oz.	5.50	5.85	5.85	5.50	5.85
Chromium Sulfate Scales, tins .....lb.	.55	.60	.60	.55	.60
Powdered tins.....lb.	.60	.65	.65	.60	.65
Chrysarobin, 50 lb tins.....lb.	3.75	4.10	4.25	3.75	4.25
Cinchonine Alk, 100 oz tins.oz.	.....	.38	.38	.38	.38
Crystal.....oz.	.43	.46	.68	.65	.68
Sulfate, 100 oz tins.....oz.	.....	.25	.25	.25	.25
Cinchonidin Sulfate, 100 oz tins .....oz.	.35	.35	.35	.35	.35
Cocaine Alk, USP, 1 oz vial..oz.	.....	11.07	11.07	11.07	11.07
Hydrochloride, USP.....oz.	.....	8.50	8.50	8.50	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	.....	11.87	11.87	10.37	10.37
Hydrobromide.....oz.	.....	8.92	8.92	7.42	7.92
Hydrochloride.....oz.	.....	10.87	10.87	9.37	9.87
Nitrate, oz vl 10 oz lots....oz.	.....	9.80	9.80	8.30	8.80
Phosp. oz vl, 10 oz lots....oz.	.....	9.42	9.42	7.92	8.42
Salicylate.....oz.	.....	8.25	8.25	6.75	7.25
Sulfate, oz vl, 10 oz lots...oz.	.....	9.67	9.67	8.42	8.92

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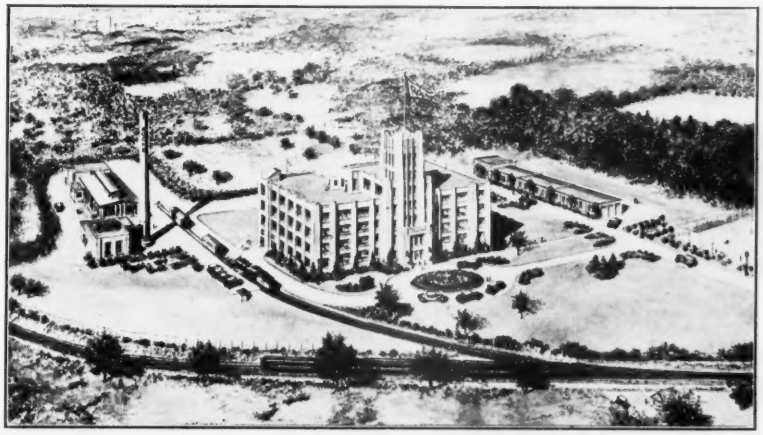

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{ Monthly Review }

Menthol Weakens Further

Menthol has again been reduced to $4.40 and $4.50. This is a decline of about 10c per lb. during the past month. The tendency for some time now has been toward lower prices for menthol, attributed principally to lower quotations from the primary market. Stocks here are reported, however, as not being large although no exceptional demand has developed to check the downward tendency of the market.

Amendments of special importance to the drug trade that have been adopted by the State to the tariff bill include a reduction of the import duty on menthol from 50c to 30c a pound. This is in contrast to the action of the House of Representatives in raising this rate of duty from 50c to 75c a pound.

Cod Liver Oil Holds Firm

Cod liver oil remains unchanged at $29 00 to $30.00 per barrel for Norwegian with the market reported as being firm at these figures. C. I. F. prices are reported as being somewhat higher although activity in the market as a whole is nominal. With the advent of cold weather, however, and the subsequent increase of consumption, the market should firm up as prices above quoted have held well through the summer months when little activity can be expected.

New catch figures will be available in January and these are awaited with interest.

Mercury metal is firm at $124 and $124.50 per flask. The market had receded somewhat during the past month due to the fact that shipments had fallen off somewhat but the price is now back where it was at the beginning of October as shipments are being made in larger volume. November will show good disbursement.

Cinchona, Senna, Licorice Imports

Imports of the subject products for the first 8 months of 1928 contrasted with a similar period for 1929 are shown in the following table:

	1928 (8 months)		*1929 (8 months)*	
	Pounds	*Value*	*Pounds*	*Value*
Cinchona bark or other from which quinine may be extracted	1,224,000	$ 327,000	1,392,000	$ 378,000
Licorice root	48,521,000	1,328,000	46,070,000	1,142,000
Licorice extract	651,000	127,000	801,000	138,000
Senna	1,324,000	83,000	992,000	71,000

As in the instance of quinine sulphate, there has likewise been an increase in cinchona bark imports.

The quantity of licorice root and licorice extract remaining in bonded warehouse on July 30, 1929 was 64,828,000 lbs. and 199,000 lbs. respectively.

Spearmint is quoted at $4.65 and $4.70 per lb., an advance of approximately 30c per lb. during the past month. A small crop, which lends itself to better control, has caused the strength of the spearmint market.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Colchicino Alk, USP, 1 oz vl.oz.	.....	20.00	20.00	20.00	20.00
Salicylate, 1 oz vls.....oz.	.....	35.50	35.50	35.50	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.27½	.27½	.28	.26½	.28	.26
Imp. powd. 224 lb bbls....lb.	.25¼	.25¼	.27	.25¼	.27¼	.25¼
Creosote, USP, 42 lb cbys....lb.	.40	.42	.42	.40	.42	.40
Carbonate, 150 lb.....lb.	1.50	1.60	1.60	1.50	1.60	1.50
Cresol, USP, 400 lb drums...lb.	.....	.20	.20	.20	.20	.20
500 lb drums.....lb.	.....	.20	.20	.20	.20	.20
DIGITALIN Pure, 1 oz vial.oz	15.00	15.50	15.50	15.00	15.50	15.00
Dover's Powder, USP, 5 lb tin .....lb.	2.45	2.50	2.50	2.45	2.50	2.45
Duboisine Sulfate, 1 oz vl....oz.	.....	30.07	30.07	30.07	30.07	30.07
Emetine Alk, 15 gr vial.....oz.	.....	.85	.85	.85	.85	.85
Hydrochloride, USP, 1 oz vl .....oz.	35.00	36.00	36.00	35.00	36.00	35.00
15 grain vials.....oz.	2.50	2.70	2.70	2.50	2.70	2.50
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50	2.50	2.25	2.50	1.85
Imp. 100 lb bbls.....100 lb.	1.95	2.00	2.00	1.95	2.00	1.95
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00	19.00	18.50	21.00	15.25
Eserine Alk, 1 oz vials.....oz.	.....	50.00	50.00	50.00	40.00	40.00
Salicylate, 1 oz vials.....oz.	.....	40.00	40.00	40.00	40.00	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	.....	40.00	40.00	40.00	40.00	40.00
ETHER, USP, 55 lb drums..lb.	.....	.18	.18	.18	.16	.15
Anaesthesia, 55 lb drums..lb.	.....	.23	.23	.23	.21	.20
Nitrous, 1 lb bot.....lb.	.....	.80	.98	.80	.95	.95
Ethyl Chloride, 200 lb bot...lb.	.22	.24	.24	.22	.25	.22
Ethyl Iodide, 5 lb bot.....lb.	.....	6.25	6.25	6.25	6.25	6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.10½	.10½	.10½	.09¾	.10	.07¾
Gall Extract.....lb.	.20	.21	.21	.20	.21	.20
GLANDULAR SUBSTANCES						
Duodenal Substance, 1 lb lots	.....	5.50	.....	.....	.....	.....
Liver Substance (Hepatic) 1 lb lots	.....	4.50	.....	.....	.....	.....
Orchic Substance (Testicular)	.....	4.75	.....	.....	.....	.....
Ovarian Substance, whole, 1 lb lots	.....	26.00	.....	.....	.....	.....
Ovarian Residue, 1 lb lots....	.....	20.00	.....	.....	.....	.....
Pituitary Substance, whole 1 lb lots	.....	40.00	.....	.....	.....	.....
Pituitary Substance, Anterior Lobe, 1 lb lots	.....	27.00	.....	.....	.....	.....
Thyroid, U. S. P., 1 lb lots...	.....	4.75	.....	.....	.....	.....
Oxgall Powder, 1 lb lots.....	.....	1.35	.....	.....	.....	.....
GLYCERIN, CP, 550 lb drums .....lb.	.....	.14	.15¼	.13¾	.19	.15
Gold Chloride, bottles.....oz.	12.00	12.50	12.50	12.00	12.50	12.00
Guaiacol, liq. USP. 100 lb cbys.....lb.	1.65	1.75	1.75	1.65	2.25	1.75
Crystals.....lb.	2.25	2.50	2.50	2.25	2.50	2.25
Benzoate, 1 lb bottles.....lb.	.....	13.00	13.00	13.00	3.00	13.00
Carbonate, 5 lb boxes.....lb.	1.70	2.50	2.50	1.70	2.50	1.70
Halazone, 5 lb bot.....lb.	2.75	3.25	3.25	2.75	3.25	2.75
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.50	.56½	.62½	.48	.62½	.52
Homatropine Hydrobrom USP. .....oz.	.....	14.50	14.50	14.50	14.50	14.50
5 oz and 1 oz vials.....oz.		13.50	13.50	13.50	13.50	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00	21.00	20.50	21.00	20.50
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00	21.00	20.50	21.00	20.50
Sulfate, 1 oz vial.....oz.	22.50	23.00	23.00	22.50	23.00	22.50
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	.....	40.00	40.00	40.00	40.00	40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	.03½	.04½	.04½	.03½	.05	.03½
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	.....	13.57	13.57	13.57	13.57	13.57
5 oz, 1 oz vials.....oz.	13.07	13.57	13.57	13.57	13.57	13.07
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	.....	25.07	25.07	25.07	25.07	25.07
Amorphous, 1 oz vial...oz.	.....	75.07	75.07	75.07	75.07	75.07
Hydrobromide, USP, 1 oz vial .....oz.	.....	35.07	35.07	35.07	35.07	35.07
Sulfate, 1 oz vial.....oz.	.....	25.07	25.07	25.07	25.07	25.07
Hypoquinone, 100 lb kegs...lb.	.....	1.25	1.25	1.25	1.25	1.25
ICHTHYOL, tins.....lb.	4.00	4.25	4.25	4.00	4.25	4.00
Iodide Arsenous, 5 lb bot...lb.	.....	5.20	5.20	5.20	5.20	5.20
Arsenous-Mercuric soln, 5 lb bot.....lb.	.....	.26	.26	.26	.26	.26
Iodine, crude, 200 lb kegs...lb.	4.35	4.35	4.35	4.35	4.20	3.88
Resublimed, 10 lb tars....lb.	4.65	4.70	4.70	4.65	4.70	4.65
Tincture demis.....gal.	4.70	4.70	4.80	4.65	4.65	4.55
Iodoform, powd 10 lb bot...lb.	.....	6.00	6.00	6.00	6.00	6.00
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.65	.66	.66	.64	.66	.64
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08	.08	.06	.08	.05½
Citrate, USP, VIII 25 lb can .....lb.	.94	1.01	1.01	.94	1.01	.94
Hypophosphite, 5 lb cans..lb.	1.55	1.65	1.65	1.55	1.65	1.55
Iodide, 1 lb bottles.....lb.	.....	4.28	4.28	4.28	4.28	4.28
Phosphate, USP, 50 lb cans .....lb.	.....	.69	.69	.69	.69	.69
& Potas Oxalate, 250 lb bbl .....lb.	.....	.45	.45	.45	.49	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80	.80	.74	.80	.74
& Sod Oxalate, 24 lb box...lb.	.....	.30	.30	.30	.30	.30
Sulfate, USP, crys bbls....lb.	.04½	.04	.04	.04½	.04	.04½
Ferrous dried bbls.....lb.	.....	.08	.08	.08	.08	.08
Valerate, tins.....lb.	2.75	3.00	3.00	2.75	3.00	2.75

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FINE AND MEDICINAL CHEMICALS ⇔ TECHNICAL CHEMICALS ⇔ INTERMEDIATES

Chemicals

{ Monthly Review }

Phenol Slightly Easier

Phenol is considered in a slightly easier condition although supplies are not yet freely offered. The future, however, looks brighter for the consumer with manufacturers said in some instances to be caught up with the demand and seeking new large consumers to enable them successfully to increase their production.

As we have stated before, the cause of the sharp increase in demand for phenol has been entirely the increased production of condensite products. These products are still going ahead as manufacturers of drug products may see in their own industry from the increased number of bottle and tube caps which appear on their products.

The demand for phenol for the products itself and for manufacture of its medicinal derivatives is only a small part of the total consumption of this product.

Phenol prices are firm in all directions and are expected to remain at present levels as far into the future as one can see. In other words, there is no reason to expect any price deflections in the markets. If price softness does develop, the cause of it is not yet in existence.

Potassium Iodide Stays Low

Potassium iodide continues to sell at prices that spell a loss on every sale, at least the material that is made from prime iodine. Imports for recent months are said to have shown no sharp decline, and, therefore, plenty of tincture of iodine is probably going in the direction of beverage alcohol.

A new scource of iodine in this country is causing considerable speculation as to its probable effect on the market for potassium iodide and tincture of iodine. The company, which is located in California, is now in production and, in fact offered some lots in the New York market during recent months. The material is produced from oil well brines by absorption with carbon, subsequent filtration through pebble beds, and subsequent separation of the iodine from the carbon. The material is said to be identical in appearance with the Chile material.

It is reported that the production of this company which is expected to be quite large, is to be handled by an American drug manufacturing company which is itself one of largest consumers of iodine.

Bismuth Salts Unchanged

Bismuth salts are unchanged in price levels with manufacturers evidently losing money on the subnitrate which is still sharply competitive. There is no indication of any change in the near future either on the price of the metal or any of the salts, but, however, there is no telling when manufacturers may decide that they have been losing money long enough on the subnitrate and should price it at levels that will show a profit. It is more than probable that such a move on the part of the one or two manufacturers that were first to cut the price might bring a like reaction from all the other makers.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Jalap Resin, USP lumps, 5 lb tins....lb.	.....	4.00	4.00	4.00	4.00
Powdered, tins....lb.	.....	4.65	4.65	4.65	4.65
Lead Acetate, USP, 100 lb kegs....lb.	.15	.18	.18	.15	.18	.15
Iodide, USP, VIII 5 lb bot.lb.	3.20	3.40	3.40	3.20	3.40	3.20
Lecithin, 5 oz jars....oz.	1.00	1.30	1.30	1.00	1.30	1.00
Licorice Ext Mass, cases....lb.	.19	.20	.20	.14	.20	.14½
Compound powder, bbls...lb.	.11	.13	.13	.11	.13	.11
LITHIUM CARBONATE, 250 lb bbls....lb.	1.50	1.60	1.60	1.50	1.60	1.50
Citrate, USP, 100 lb kegs..lb.	.....	1.70	1.70	1.70	1.70	1.70
Iodide, 5 lb bottles....lb.	.....	5.40	5.40	5.40	5.40	5.40
Lobeline Sulfate, ¼ oz vial...oz.	.....	8.75	8.75	8.75	8.75	8.75
Magnesium Carbonate, USP, 100 lb bbls....lb.	.....	.10½	.12	.10½	.12	.12
English, oz blocks....oz.	.16	.18	.18	.16	.18	.16
Glycerophosphate, 5 lb tins....lb	3.20	3.25	3.25	3.20	3.25	3.20
Hypophosphite, 5 lb cans..lb	.....	1.05	1.05	1.05	1.05	1.05
Salicylate, 100 lb kegs....lb	.....	1.10	1.10	1.10	1.10	1.10
Stearate, bbls....lb.	.23	.25	.25	.23	.25	.23
Manganese Glycerophosphate, 5 lb tins....lb.	2.90	3.00	3.00	2.90	3.00	2.90
Hypophosphite, USP, VIII 5 lb cans....lb.	1.35	1.40	1.40	1.35	1.40	1.35
Iodide, 1 lb bottles....lb.	6.40	6.65	6.65	6.40	6.65	6.40
MENTHOL, USP, 60 lb cases....lb.	4.40	4.50	6.00	4.40	6.25	4.10
Synthetic, cases....lb.	3.00	3.25	3.25	3.00	3.50	3.00
Mercury Metal, 75 lb flasks...fl.	124.00	124.50	126.00	121.50	134.00	120.00
Bichloride, crys 25 lb box..lb.	.....	1.81	1.81	1.81	1.81	1.81
Gran powd, 100 lb kegs..lb.	.....	1.65	1.65	1.65	1.65	1.65
Bisulfate, 25 lb boxes....lb.	.....	1.62	1.62	1.62	1.62	1.62
Blue Mass, 25 lb boxes....lb.	.....	1.03	1.03	1.03	1.03	1.03
Powd, 25 lb boxes....lb.	.....	1.04	1.04	1.04	1.04	1.04
Blue Ointment, USP, 50%, 25 lb cans....lb.	.....	1.29	1.29	1.29	1.29	1.29
Mild 30%, 25 lb cans....lb.	.....	.92	.92	.92	.92	.92
33 1/3% mercury....lb.	.....	.94	.94	.94	.94	.94
Calomel, 50 lb boxes....lb.	.....	2.05	2.05	2.05	2.05	2.05
English....lb.	2.75	2.80	2.80	2.75	2.80	2.75
Iodide, green, 25 lb jars...lb.	.....	4.80	4.80	4.80	4.80	4.80
Red, USP, 25 lb jars...lb.	.....	4.89	4.89	4.89	4.89	4.89
Yellow, USP, VIII, 25 lb jars....lb.	4.80	4.80	4.80	4.80	4.80	4.80
Red precip, USP, 25 lb boxes....lb.	2.17	2.17	2.17	2.17	2.17	2.17
Powd., USP, 25 lb boxes.lb.	2.17	2.17	2.17	2.17	2.17	2.17
White precip, USP, 25 lb boxes....lb.	.....	2.20	2.20	2.20	2.20	2.20
Powd., USP, 25 lb boxes.lb.	.....	2.25	2.25	2.25	2.25	2.25
Salicylate, 25 lb bot....lb.	.....	2.32	2.32	2.32	2.32	2.32
With chalk, USP, 25 lb boxes....lb.	.....	.93	.93	.93	.93	.93
Methanol, Pure 1c-1 drs...gal.	.....	.57	.57	.57	.60	.48
Methyl Salicylate, USP, 50 lb cans....lb.	.40	.42	.45	.40	.45	.42
Methylene Blue, USP, med 5 lb cans....lb	2.00	2.05	2.05	2.00	2.05	2.00
Milk powd, 150 lb bbls....lb.	.14	.15	.15	.14	.15	.14
MORPHINE Alk, 5 oz tin...oz.	.....	11.35	11.35	9.85	10.15	9.85
Acetate, 5 oz tins....oz.	.....	9.35	9.35	7.85	8.25	7.85
Hydrobromide, 5 oz tins, 10 oz lots....oz.	.....	9.35	9.35	7.85	8.35	7.85
Hydrochloride, 5 oz tins, 10 oz lots....oz.	.....	9.25	9.25	7.85	8.35	7.85
Ethyl Hydrochloride, 5 oz tins 10 oz lots....oz.	.....	10.85	10.85	9.35	9.85	9.35
Sulfate, 5 oz tins, 10 oz lots....oz.	.....	8.85	8.85	7.85	8.35	7.85
Naphthalene Flake, 175 lb bbls wks....lb.	.04½	.05	.05	.04½	.05	.04½
Balls, 250 lb bbls wks....lb.	.05½	.06	.06	.05½	.06	.05½
Oxgall, Purified, 5 lb bot....lb.	1.75	2.50	2.50	1.75	2.50	1.75
USP, 5 lb bot....lb.	2.00	2.50	2.50	2.00	2.50	2.00
Oxyquinoline Sulfate, tins...lb.	8.50	9.25	9.25	8.50	9.25	8.50
Pancreatin, USP, 100 lb....lb.	.....	1.90	1.90	1.90	.....	.....
Paraffin, refd, 200 lb cs slabs 118-120 deg MP....lb.	.08	.09	.09	.08	.09	.08
128-132 deg MP....lb.	.07½	.07½	.07½	.07½	.07½	.07½
Para-Aldehyde, USP, 100 gal drums....lb.	.67	.77	.77	.67	.77	.67
Pepsin, USP, 100 lbs. 1:3000.lb.	.....	2.25	2.25	2.25	2.50	2.50
100 lbs. 1:6000....lb.	.....	4.00	4.00	4.00	5.00	5.00
100 lbs. 1:10000....lb.	.....	6.50	6.50	6.50	8.35	8.35
Peptone, powd, 5 lb bot....lb.	.....	.....	.....	.....	.....	.....
PHENOLPHTHALEIN, USP, 100 lb drums....lb.	1.10	1.20	1.20	1.10	1.20	1.10
5 lb cans 100 lb lots..lb.	1.23	1.30	1.30	1.23	1.30	1.23
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots....oz.	.....	3.25	3.25	3.25	3.25	3.25
Nitrate, 25 oz lots....oz.	.....	3.25	3.25	3.25	3.25	3.25
Single ounce....oz.	.....	3.50	3.50	3.50	3.50	3.50
Alkaloid, 15 gr vials....vl.	.....	.75	.75	.75	.75	.75
Piperazine Hydrate, 1 lb bot.lb.	.....	15.00	15.00	15.00	15.00	15.00
Piperadine, 25 oz bottles....lb.	.....	8.00	8.00	8.00	8.00	8.00
Popodhyllin 5 lb bottles....lb.	4.35	4.50	4.50	4.35	4.50	4.35
Potassium Acetate, USP, 100 lb kegs....lb.	.29	.30	.30	.29	.30	.29
Bicarb, USP, crys 320 lb bbls....lb.	.13	.13½	.13½	.08½	.09	.08½
Bromide, USP, crys 100 lb cs....lb.	.42	.43	.40	.39	.43	.42
Citrate, USP, 50 lb bbl....lb.	.51	.53	.55	.51	.55	.51
Guaiacol Sulfonate....lb.	1.95	2.25	2.25	1.95	2.25	1.95

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Imported Chlorophyll (Oil, Alcohol, Water, Water and Alcohol Soluble). This Chlorophyll is light-proof and alkali-proof. Used for coloring where for sanitary and other reasons an artificial dye is unsuitable. It is unrivaled for bleaching yellowish oils and soaps, for coloring vegetable oils, such as cotton, linseed and olive oils; and for mineral oils, wax preparations, candles and petrolatum.

Sulphur Precipitated, U. S. P. **Hypophosphites, U. S. P.** **Acid Hypophosphorous, U. S. P.**

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{ Monthly Review }

Japanese Exports Greater

According to "Monthly Returns of the Foreign Trade of Japan" published by the Ministry of Finance, the exports of camphor, menthol crystals, agar agar, and dried plants for insectifuge from Japan to the U. S. in the six months ended June 30, 1929, compared with the corresponding period of last year were in the quantities and values as follows:

	First half 1928		*First half 1929*	
	Pounds	*Value*	*Pounds*	*Value*
Camphor	1,000,000	$519,000	2,524,000	$1,074,000
Dried plants for insectifuge	5,749,000	1,480,000	2,324,000	508,000
Menthol crystals	122,000	514,000	130,400	493,000
Agar agar	272,000	187,000	330,000	256,000

(One yen was equivalent to $0.47 in the first half of 1928 and to $0.45 in the first half of 1929 United States currency).

An examination of these figures reveals a large increase in 1929 in the quantity and value of camphor exported to the United States although the value per pound decreased from approximately 52 to 42 cents a pound. Menthol was purchased in larger quantites, however, the average export value per pound dropped from approximately $4.21 to $3.79. One of the most interesting changes was in that of dried plants for insectifuge, which experienced a loss of 3,425,000 pounds, value $972,000. The average price per pound exported decreased from $0.257 to $0.218. The quantity of camphor remaining in United States bonded warehouses on July 30, 1929, was 1,130,486 pounds.

Russia Develops Essential Oils

According to "The Oil and Colour Trades Journal", London, Russia has been developing cultivation of essential oil and plants industriously for a number of years, basing operations on its natural resources, and on the importation of plants from abroad for propagation. At present, says a Moscow journal, the Chemico-Pharmaceutical Institute is maintaining 18 botanical experimental stations in Russia, many of these of recent origin now being organized in the Crimea. The Abkhay experimental station is perhaps the most highly developed. Here lavender, verbena, etc., are extensively grown for industry. The Japanese camphor plant, hitherto grown almost exclusively for decorative purposes, is now being cultivated for industrial purposes. The leaves of the Caucasian-grown plant have been found to contain 1.5 per cent. of medicinal camphor. Russian requirements in camphor call for the cultivation of 125 hectares of land. There is also a nursery station near Moscow, where a number of wild essential-oil bearing plants are being cultivated. Russia's attention to the essential oil industry, which has frequently been noted, has resulted in a reduction of the receipts of essential oils, of which Russia now imports only 30 per cent. of its consumption. In fact, it has already become an exporter of certain varieties, including considerable quantities of mint oil.

More Turkish Attar of Rose

Turkish exports of attar of rose through the port of Constantinople to the United States were approximately 50 per cent. greater than during 1927. The figures follow: 1927—57 pounds, value $6,015; 1928—95 pounds, value $9,700. (Vice Consul R. A. Hard, Constantinople.)

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Potassium Hypophosphite, 10 lb. cans lb.	.80	.85	.85	.80	.85	.80
Iodide, USP, 100 lb cases lb.	3.25	3.30	3.55	3.25	3.80	3.25
Lactophosphate, 4 ox bot lb.	.....	.90	.90	.90	.90	.90
Permangan, USP, crys, 100 lb drs wks lb.	.15	.15½	.15½	.15	.16½	.14½
Phosphate dibasic pure, kegs lb.	.....	.49	.49	.49	.49	.49
Salicylate, 25 lb cans lb.	.....	1.18	1.18	1.18	1.18	1.18
Sulfate, USP, VIII, 100 lb kegs lb.	.13	.15	.15	.13	.15	.13
Sulfocyanide, CP 15 lb jars lb.	.....	.50	.50	.50	.50	.50
Tartrate, CP, tins lb.	.....	.65	.65	.65	.65	.65
Pyrogallol, USP, see Acid Pyrogallic	.....	.....	.....	.....	.....	.....
Quinidine Alk, 100 oz tins oz.	.70	.75	.75	.70	.75	.70
Sulfate, 100 oz tins oz.	.....	.50	.50	.50	.50	.50
QUININE SULFATE, USP, 100 oz tins oz.	.....	.40	.40	.40	.40	.40
1 oz tins, 100 oz lots oz.	.....	.47	.47	.47	.47	.47
Dutch, 100 oz tins oz.	.....	.40	.40	.40	.40	.40
Java, 100 oz. tins oz.	.....	.40	.40	.40	.40	.40
Japanese 100 oz tins oz.	.....	.40	.40	.40	.40	.40
Acetate oz.	.....	.78	.78	.78	.78	.78
Arsenate oz.	.....	.78	.78	.78	.78	.78
Benzoate oz.	.....	.78	.78	.78	.78	.78
Bisulfate, USP oz.	.....	.40	.40	.40	.40	.40
Resale oz.	.....	.39	.39	.37	.39	.37
Citrate oz.	.....	.51	.51	.51	.51	.51
Dicarbonate, 1 oz tins oz.	.....	2.56	2.56	2.56	2.56	2.56
Dihydrobromide oz.	.....	.54	.54	.54	.54	.54
Dihydrochloride, USP oz.	.....	.54	.54	.54	.54	.54
Ethyl Carbonate, 16 oz tins oz.	.....	.58	.58	.58	.58	.58
Ferrocyanide oz.	.....	.78	.78	.78	.78	.78
Formate oz.	.....	.73	.73	.73	.73	.73
Glycerophosphate oz.	.....	.80	.80	.80	.80	.80
Hydrobromide, USP oz.	.....	.50	.50	.50	.50	.50
Hydrochlorosulfate oz.	.....	.54	.54	.54	.54	.54
Hydrochloride & Urea, USP oz.	.....	.74	.74	.74	.74	.74
Hypophosphite oz.	...	.70	.70	.70	.70	.70
Lactate oz.	.....	.66	.66	.66	.66	.66
Phenolsulfonate oz.	.....	.78	.78	.78	.78	.78
Phosphate oz.	.....	.62	.62	.62	.62	.62
Salicylate, USP oz.	.....	.52	.52	.52	.52	.52
Tannate, USP oz.	.....	.41	.41	.41	.41	.41
Tartrate oz.	.....	.78	.78	.78	.78	.78
Valerate oz.	.....	.78	.78	.78	.78	.78
& Urea Hydrochloride, USP oz.	.....	.88	.88	.88	.88	.88
Rennet, N. F. 5 lb 1:25,000 lb.	2.95	3.50	3.50	2.95	3.50	2.95
Resorcinol, USP, 25 lb cans lb.	1.60	1.65	1.75	1.65	2.00	1.70
Rochelle Salt, USP, 225 lb bbl lb.	.23	.23½	.23½	.23	.23½	.23
Imp. USP, 300 lb bbls lb	.....	.23	.23	.23	.23	.23
Rock Sugar, 5 lb boxes lb.	.....	.15	.15	.15	.15	.15
Saccharin, USP, 10 lb cans lb.	1.70	1.80	1.80	1.70	1.80	1.70
USP, Soluble, 10 lb cans lb.	1.75	1.85	1.85	1.75	1.85	1.75
Salicin, USP lb.	.....	9.31	9.31	4.86	4.86	4.86
SALOL, USP, 100 lb drums lb.	.....	.90	.90	.90	.90	.90
Saltpetre, powd, bbls wks lb.	.06¼	.08½	.08½	.06½	.08½	.06½
Santonin, USP, bulk lb.	.....	129.50	129.50	129.50	145.00	129.50
Saponin, refined lb.	1.30	1.50	1.50	1.30	1.50	1.30
Siedlitz Mixture, 250 lb bb. lb.	.....	.....	.....	.....	.....	.....
Silver Metal, American oz.	.....	.57½	.57½	.57½	.60½	.57½
Iodide, 16 oz lots oz.	.....	.69	.69	.69	.69	.69
Nitrate, 100 oz bottles oz.	.40½	.42½	.42½	.40½	.45	.40½
Nucleinate, bulk oz.	.....	.37	.37	.37	.37	.37
Proteinate oz.	.....	.32	.32	.32	.32	.32
SODIUM BENZOATE, USP, 100 lb bbls lb.	.45	.49	.49	.45	.55	.50
Bromide, USP, 100 lb kegs lb.	.42	.43	.43	.42	.43	.42
Cacodylate, USP, 25 lb bot lb.	4.75	5.90	5.90	4.75	6.10	4.75
Citrate, USP, X 50 lb kegs lb.	.45	.47	.47	.45	.47	.45
USP VIII, 50 lb kegs lb.	.38	.40	.40	.38	.40	.38
Glycerophosphate, USP, crys 25 lb cans lb.	1.40	1.55	1.55	1.40	1.55	1.40
Powder, 25 lb tins lb.	1.45	1.60	1.60	1.45	1.60	1.45
Soln, USP, 25 lb tins lb.	1.05	1.20	1.20	1.05	1.20	1.05
Hypophosphite, USP, 25 lb cans lb.	.70	.75	.75	.70	.75	.70
Iodide, USP, 25 lb jars lb.	4.25	4.30	4.30	4.25	4.30	4.25
Phosphate (Mono-Sodium), 100 lb kegs lb.	.30	.31	.31	.30	.31	.30
Di-Sodium USP, granular, 275 lb bbls lb.	.07½	.08	.08	.07½	.08	.07½
Pyrophosphate, 100 lb kegs lb.	.....	.29	.29	.29	.29	.29
Salicylate, 100 lb kegs lb.	.....	.47	.47	.47	.47	.47
Sulfocarbolate, USP, 100 lb kegs lb.	.....	.31	.31	.31	.31	.31
Sulfocyanate, CP crys, jars included lb.	.....	.60	.60	.60	.60	.60
Spartein Sulfate, USP, 25 oz bulk oz.	.65	.70	.70	.60	.70	.60
Single oz vial oz.	.77	.90	.90	.77	.90	.77
STRONTIUM BROMIDE USP, 50 lb kegs lb.	.51	.52	.52	.51	.52	.51
Carb, 100 lb kegs wks lb.	.....	.20	.20	.20	.20	.20
Iodide, USP, 25 lb jars lb.	.....	4.00	4.00	4.00	4.00	4.00
Lactate, kegs lb.	.90	1.10	1.10	.90	1.10	.90
Nitrate, 600 lb bbls NY lb.	.08	.08½	.08½	.08	.08½	.08
Imp. bbls NY lb.	.08	.08½	.08½	.08	.08½	.08
Salicylate, USP, 100 lb keg lb.	.....	1.10	1.10	1.10	1.10	1.10

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{ *Monthly Review* }

Essential Oil Trade

During the first eight months of the current year the United States foreign trade in essential oils was valued at $6,907,000, of which $5,256,000 consisted of imports and $1,651,000 exports.

The following table shows essential oils imports for the first 8 months of 1928 and 1929:

	1928 (8 mos.) Pounds	*1929 (8 mos.) Pounds*
Cassia and cinnamon	189,994	249,990
Geranium	155,736	49,376
Attar of roses (oz.)	26,528	39,869
Bergamot	80,501	75,445
Citronella and lemon grass	1,035,348	936,656
Lavender and spike lavender	148,613	191,214
Lemon	434,529	292,548
Orange	138,464	136,636
Sandalwood	7,634	16,654
Other essential and distilled oils	2,565,213	3,127,190

The following table shows exports of essential oils for the same period:

	1928 (8 mos.)	*1929 (8 mos.)*
Peppermint	98,752	133,227
Orange	....	38,942
Pine	....	2,684,319
Other	2,258,407	1,625,141

Orange Oil Off Sharply

Orange oil is considerably lower on all grades. Sweet, W. Indian oil is down to $3.75 per lb. from a high of $5.00 for last month. All other grades have been reduced correspondingly, Italian being offered at $4.15 and American at $4.00 per lb.

The West Indian oil crop came in early and was dumped on the market causing prices to break badly. The fact that money is tight abroad necessitated a quick turnover in the crop. Then again, the uncertainty of whether or not California will produce oil in any quantity next year, makes the risk of holding the Italian oil until the next consuming season so great, that there is reluctance abroad to take a chance. It is the opinion in some quarters, however, that orange oil is now on a basis below its intrinsic value. Against this opinion it may be stated that the oil is still above what might be termed an average price.

Ginger is strong, due to strength in the raw material market. When definite demand sets in this market will probably be higher, although current spot market remains unchanged at $6.60 per lb.

Geranium oils are easier with inquiries few and small in size. Price is quoted at $4.50 for the African. This price could undoubtedly be shaded somewhat on a definite order as volume of business has been unimportant.

Cajuput is easier at 75c and 80c per lb., with the market being reported as in "free supply". Competition has developed on this item which caused a reduction of approximately 8c per lb. during the past thirty days.

Limes, expressed are quoted at $20 to $23 and distilled at $8.75 to $9.00 as to quantity. The tendency seems to be to continue at these figures.

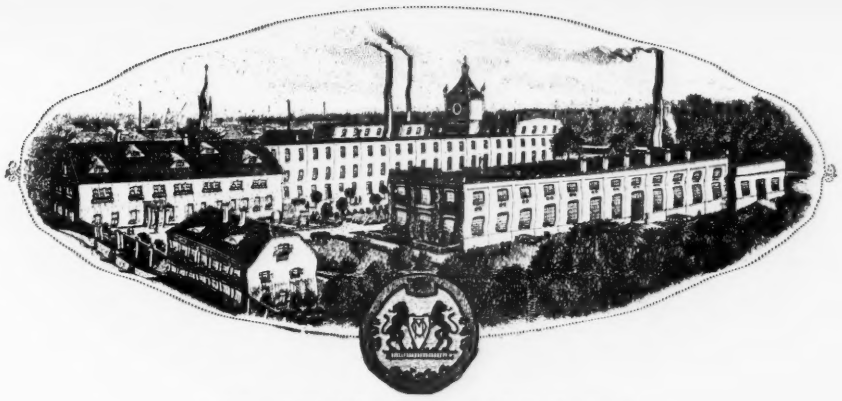
	Current Market	1929 High	1929 Low	1928 High	1928 Low
Strophanthin, USP, 1 oz vial..oz.	.....	19.00	19.00	19.00	19.00
Crystals.....lb.	.....	75.00	75.00	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	.....	.61	.66	.61	.66	.56
Powdered.....oz.	.....	.51	.56	.51	.56	.46
Acetate.....oz.	.....	.65	.65	.65	.65	.55
Arsenate, 25 oz cans.....oz.	.....	.65	.65	.65	.65	.55
Glycerophosphite, USP,..oz.	.....	.65	.65	.65	.65	.55
Hydrobromide.....oz.	.....	.65	.65	.65	.65	.55
Hydrochloride.....oz.	.....	.65	.65	.65	.65	.55
Hypophosphite.....oz.	.....	.75	.75	.75	.75	.65
Nitrate, USP.....oz.	.55	.72	.72	.55	.72	.52
Phosphate.....oz.	.....	.65	.65	.65	.65	.55
Sulfate, USP, powd.....oz.	.....	.42	.56	.42	.56	.38
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90	5.90	5.80	5.90	5.80
Milk, USP, 200 lb bbls...lb.	.18	.20	.20	.18	.20	.18
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05	4.05	3.85	4.05	3.85
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85	3.85	2.65	3.85	2.65
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	.....	.06	.06	.06	.06	.06
Iodide, USP, VIII, 5 lb bot.lb.	.....	4.55	4.55	4.55	4.55	4.55
TARTAR EMETIC, USP, 300 *lb bbls*.....*lb.*	.29	.31	.31	.29	.36	.32½
Terebene, tins.....lb.	.....	.85	.85	.85	.85	.85
Terpin Hydrate, USP, 100 lb *kegs*.....lb.	.40	.42	.42	.40	.47	.40
Theobromine Alk, 5 lb cans..lb.	1.90	2.25	2.25	1.90	2.25	1.90
Sod. Salicylate, 1 lb bot...lb.	.....	2.10	2.10	2.10	2.10	2.10
Sod. Benzoate, 1 oz vials..oz.	.....	1.00	1.00	1.00	1.00	1.00
Thymol, USP, 25 lb tins.....lb.	2.55	2.70	2.70	2.25	2.75	2.25
Iodide kegs.....lb.	6.00	7.00	7.00	6.00	7.00	6.50
Veratrine Alkaloid.....oz.	.....	2.25	2.25	2.25	2.25	2.25
Sulfate, 1 oz vials.....oz.	.....	2.25	2.25	2.25	2.25	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.80	1.00	1.00	.80	1.00	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31	.31	.28	.31	.28
Chloride, USP, 25 jars ex..lb.	.24	.29	.29	.24	.29	.24
Iodide, 5 lb bottles.....lb.	.....	5.22	5.22	5.22	5.22	5.22
Oxide, USP, 100 lb bbls...lb.	.16½	.17½	.18	.16½	.18	.17
Stearate, USP, 50 lb bbl..lb.	.24	.26	.26	.24	.26	.22
Sulfate, USP, 100 lb bbl..lb.	.08	.09	.09	.08	.09	.08
Sulfocarbolate, 100 lb kegs..lb.	.23	.29	.29	.23	.29	.29

Natural Derivatives

Anethol, 2 lb bot.....lb.	1.25	1.30	1.30	1.25	1.30	1.25
Borneol, 1 lb bot.....lb.	2.40	2.50	2.50	2.40	2.60	2.40
Carvol, 5 lb bot.....lb.	3.50	3.60	3.60	3.50	2.85	3.50
Citral, 25 lb cans.....lb.	2.70	2.75	2.75	2.70	2.75	2.70
Citronellal, 1 lb bot.....lb.	2.70	2.75	2.75	2.70	3.25	2.70
Eucalyptol, USP, 50 lb cans..lb.	1.00	1.05	1.05	1.00	1.05	1.00
Eugenol, USP, 25 lb cans....lb.	2.70	2.75	2.75	2.70	2.90	2.70
Geraniol, domestic, 50 lb cases .....lb.	2.50	2.70	2.70	2.50	2.70	2.50
Imported, 5 lb bot.....lb.	2.90	3.10	3.10	2.90	3.10	2.90
Iso-Eugenol, 1 lb bot.....lb.	3.75	3.80	3.80	3.75	4.50	3.75
Imported, 1 lb bot.....lb.	3.70	3.80	3.80	3.70	3.80	3.70
Linalol from Bois de Rose, 5 lb bot.....lb.	3.20	3.25	3.25	3.20	3.25	3.00
Rhodinol, 1 lb bot.....lb.	7.50	7.75	7.75	7.50	7.75	6.00
Saffrol, drums.....lb.	.....	.27	.27	.27	.27	.27
60 lb cans.....lb.	.....	.29	.29	.29	.29	.29

Synthetic Aromatics

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65	3.65	3.50	3.75	3.50
Aldehyde, C 8 (Otcyl) 1 lb bot .....lb.	.....	50.00	55.00	50.00	55.00	55.00
C 7, 1 lb bot.....lb.	4.50	5.50	5.50	4.50	5.50	4.50
C 9 (Nonyl), 1 lb bot ....lb.	.....	140.00	140.00	140.00	140.00	140.00
C 10 (Decyl), 1 lb bot....lb.	.....	48.00	48.00	48.00	48.00	48.00
C 14, 1 lb bot.....lb.	.....	32.00	32.00	22.50	25.00	22.50
C 16, 1 lb bot.....lb.	.....	24.00	32.00	24.00	80.00	31.00
Aubepine, see Anisic Aldehyde						
AMYL ACETATE, pure, 5 gal cans.....gal.	5.50	6.85	6.85	4.75	5.50	4.75
Butyrate, 1 lb bot.....lb.	1.70	1.75	1.75	1.70	1.90	1.70
Butyrate, 5 lb bot.....lb.	.....	1.75	1.75	1.75	1.75	1.75
Cinnamate, 5 lb bot.....lb.	9.50	9.75	9.75	9.50	9.75	9.50
Formate, 1 lb bot.....lb.	.....	1.90	1.90	1.90	1.90	1.90
Formate, 5 lb bot.....lb.	.....	1.75	1.75	1.75	1.75	1.75
Phenyl Acetate, 1 lb bot...lb.	4.50	5.00	5.00	4.50	5.00	4.50
Salicylate, 100 lb cbys.....lb.	1.25	1.30	1.30	1.25	1.30	1.25
Imported.....lb.	2.25	2.50	2.50	2.25	2.50	2.25
Anisic Aldehyde, 1 lb bot....lb.	3.00	3.25	3.25	3.00	3.25	3.00
Benzaldehyde, USP, 40 lb cbys .....lb.	.....	.....	.....	.....	.....	.....
50 lb cbys.....lb.	1.25	1.35	1.35	1.25	1.35	1.25
FFC, 40 lb cbys.....lb.	1.35	1.45	1.45	1.35	1.45	1.35
Benzoic Ether, see Ethyl Benzoate.....						
Benzophenone, 1 lb bot.....lb.	4.50	5.00	5.00	4.50	5.00	4.50
Benzyl Acetate, 100 lb cbys..lb.	.90	1.10	1.10	.90	1.10	.90
Alcohol, 5 lb bot.....lb.	1.25	1.35	1.35	1.25	1.35	1.25
Benzoate, 5 lb bot.....lb.	1.05	1.15	1.35	1.05	1.35	1.25
BENZYL BENZOATE.....	1.35	1.40	1.40	1.35	1.40	1.35
Medicinal, FFC.....lb.	.....	1.40	1.40	1.40	1.40	1.40
Buytrate, CP, 1 lb bot....lb.	9.25	9.50	9.50	9.25	9.50	9.25



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Heliotropin C. P.	Oil Dill Seed	Rose Absolute
Jasmine Absolute	Oil Juniper Berries	Safrol
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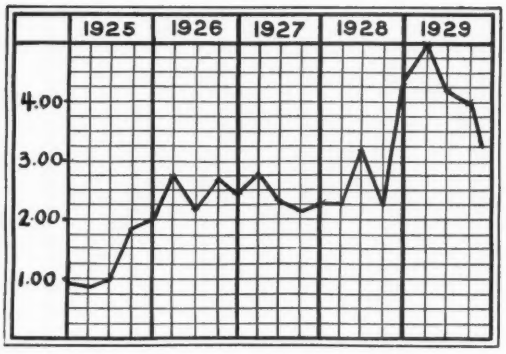
{ Monthly Review }

Lemon Oil Prices Still High

Lemon oil, domestic, is easier at $2.80 and $2.95. The downward tendency still seems to be unchecked, and it is the opinion in circles that know, that the market is probably not stabilized at these levels yet. Messina oil is quoted at $3.35 and $4.00 with the tendency to be weakened by the California situation. The Italian market is reported as easy but not panicky.



Lemon Oil prices : Dollars per pound

It is reported that there has been a noticeable tendency on the part of some consumers to contract at this time. In a market of so speculative a nature it is rather difficult to say whether they act wisely or whether the policy of watchful waiting will prove the wise move.

Anise is Lower

Anise, technical, is weaker, lower quotations prevailing at 77c and 82c per lb. While anise has been high in the past, and the market on the surface has appeared strong, this condition was not true in the fullest sense of the word. By this we mean that there was always sufficient stocks both here and abroad to care for requirements and it has been possible to shade these quotations on any sizable inquiry.

The present market is now reflecting these conditions with quotations from abroad easier. With new crop coming in there is still plenty of old crop oil available.

Savin has advanced materially during the past month. Quotations are now being made of $2.60 and $2.75 per lb. for spot goods. This is an advance from the high of $1.80 prevailing a month ago. There is undoubtedly an extreme shortage of this commodity due to the draught during the past summer which damaged the crops both in Germany and Hungary. No relief can be expected until the 1930 crop is harvested.

Almond bitter, acid free, is easier and in good supply. Quotations are being made at $2.85 and $2.95 per lb. Demand is routine.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Benzyl Cinnamate, 1 lb bot. lb.	9.25	9.50	9.50	9.25	9.50	9.25
Formate, 1 lb bot. . . . . lb.	3.15	3.25	3.25	3.15	3.75	3.15
Propionate, 1 lb bot. . . . . lb.	3.60	3.75	3.75	3.60	3.75	3.60
Succinate, 1 lb bot. . . . . lb.	5.25	5.50	5.50	5.25	5.50	5.25
Valerate, 5 lb bot. . . . . lb.	3.00	3.25	3.25	3.00	3.25	3.00
Bornyl Acetate, 1 lb bot. . . . lb.	2.90	3.00	3.00	2.90	3.25	2.90
Bromstyrol, 25 lb cases. . . . lb.	4.10	4.25	4.25	4.10	5.00	4.10
Butyl Anthranilate dom, 1 lb bot. . . . . lb.						
Butyric Ether, see Ethyl Butyrate.						
Cinnamic Acid, 5 lb cans. . . . lb.	3.25	3.50	3.50	3.25	3.50	3.25
Alcohol liquid, 1 lb bot. . . lb.	3.25	3.35	3.35	3.25	3.50	3.25
Crystallizable. . . . . lb.	7.00	8.00	8.00	7.00	8.00	7.00
Aldehyde. . . . . lb.	2.25	2.50	2.50	2.25	2.50	2.25
Imported, 1 lb bot. . . . . lb.	7.75	9.00	9.00	7.75	9.00	7.75
Citronelyl Acetate, 1 lb bot. . lb.	7.75	8.00	8.00	7.75	8.00	7.75
Coumarin, 25 lb cans. . . . . lb.	3.50	4.00	4.00	3.50	4.00	3.50
DECYL ALCOHOL. . . . . lb.	25.00	28.00	28.00	25.00	28.00	25.00
Diethyl Phthlate see Chemicals						
Diphenyloxide, 25 lb tins. . . . lb.	1.00	1.15	1.15	1.00	1.15	1.00
Diphenyl Methane. . . . . lb.	1.50	1.75	1.75	1.50	1.75	1.50
Duodecyl Alcohol. . . . . lb.	20.00	22.00	22.00	20.00	22.00	20.00
Ethyl Acetate, pure, 5 lb bot. lb.	.45	.50	.50	.45	.50	.45
Benzoate, 5 lb bot. . . . . lb.	1.50	1.75	1.75	1.50	1.75	1.50
Ethyl Butyrate, 5 lb bot. . . . lb.	1.80	2.00	2.00	1.80	2.00	1.80
Caproate, 1 lb bot. . . . . lb.	3.25	3.50	3.50	3.25	3.50	3.25
Cinnamate, 1 lb bot. . . . . lb.	4.00	4.50	4.50	4.00	4.50	4.00
Formate, 5 lb bot. . . . . lb.	1.00	1.25	1.25	1.00	1.25	1.00
Methyl Paracresol, 1 lb bot . . . . . lb.	3.25	3.50	3.50	3.25	3.50	3.25
Phenyl Acetate, 5 lb bot. . lb.	3.75	4.00	4.00	3.75	4.00	3.75
Valerate, 5 lb bot. . . . . lb.	.....	3.75	3.75	3.75	3.75	3.75
Salicylate, 5 lb bot. . . . . lb.	1.95	2.00	2.00	1.95	2.10	1.95
Formic Ether see Ethyl Formate						
Geranyl Acetate, 1 lb bot. . . . lb.	3.20	3.25	3.25	3.20	3.25	3.20
Butyrate, 1 lb bot. . . . . lb.	13.00	13.50	13.50	13.00	13.50	13.00
Formate, 1 lb bot. . . . . lb.	12.00	12.50	12.50	12.00	12.50	12.00
Glyco Ester. . . . . lb.	.90	1.00	1.00	.90	1.00	.90
Heliotropin, 100-10 lbs. . . . . lb.	1.65	1.75	1.75	1.65	1.75	1.65
Imported. . . . . lb.	1.95	2.05	2.05	1.95	2.05	1.95
Hydroxycitronellal, 1 lb. . . . lb.	5.50	7.50	7.50	5.50	7.50	5.50
Indol, CP, 1 oz bot. . . . . oz.	2.90	3.00	3.00	2.90	4.50	2.90
IONONE, 1 lb bot 100%. . . lb.	5.00	6.00	6.00	5.00	7.00	5.00
Alpha. . . . . lb.	4.80	5.00	5.20	4.80	6.25	4.75
Beta. . . . . lb.	5.70	5.75	5.75	5.70	7.25	5.50
Methyl. . . . . lb.	5.75	6.00	6.00	5.75	7.25	5.75
Iso Borneol. . . . . lb.	2.15	2.25	2.25	2.15	2.25	2.15
Iso Bornyl Acetate. . . . . lb.	2.80	3.00	3.00	2.80	3.00	2.80
Iso-Butyl Benzoate, 5 lb bot. lb.	2.75	3.00	3.00	2.75	3.00	2.75
Iso-Safrol, 1 lb bot imp. . . . lb.	1.65	1.75	1.75	1.65	1.75	1.65
Domestic, 5 lb bot. . . . . lb.	3.50	3.75	3.75	3.50	3.75	2.50
Lynalyl Acetate, 1 lb bot. . . . lb.	3.25	4.25	4.25	3.25	4.50	3.25
Benzoate, 1 lb bot. . . . . lb.	13.00	14.00	14.00	13.00	14.00	13.00
Formate, 5 lb bot. . . . . lb.	10.50	12.00	12.00	10.50	12.00	10.50
METHYL ACETOPHENONE . . . . . lb.	3.35	3.50	3.50	3.35	3.75	3.35
Anthranilate, 1 lb bot. . . . . lb.	2.40	2.45	2.45	2.40	2.45	2.40
Imported. . . . . lb.	2.70	2.75	2.75	2.70	2.75	2.70
Anthranilic Acid. . . . . lb.	11.75	12.00	12.00	11.75	12.00	11.75
Benzoate, 5 lb bot imp. . . . lb.	1.75	1.85	1.85	1.75	2.00	1.75
Domestic, 5 lb bot. . . . . lb.	1.75	2.00	2.00	1.75	2.00	1.75
Cinnamate, 1 lb bot. . . . . lb.	3.75	4.25	4.25	3.75	4.25	3.75
Heptenone, 1 lb bot. . . . . lb	8.50	9.00	9.00	8.50	9.00	8.50
Paracresol, 1 lb bot. . . . . lb	4.50	8.00	8.00	4.50	8.00	4.50
Phenylacetate, 5 lb bot. . . lb	3.75	4.00	4.00	3.75	4.00	3.75
Salicylate, USP, 500 lb dr . lb.	.....	.40	.40	.40	.40	.40
50 lb cases. . . . . lb.	.....	.42	.42	.42	.42	42
Mirbane rect, 1,000 lb drs. . . lb.	.12	.13	.13	.12	.13	12
Musk Ambrette 1 lb cans. . . lb	6.50	6.75	6.75	6.50	6.75	6.50
Ketone 1 lb cans. . . . . lb	8.00	8.15	8.15	8.00	8.15	8.00
Xylene 5 lb cans. . . . . lb.	2.25	2.35	2.35	2.25	2.35	2.25
Nerolin 1 lb cans. . . . . lb.	1.35	1.40	1.40	1.35	1.50	1.35
Octyl Alcohol 1 lb bot. . . . . lb.	30.00	32.00	32.00	30.00	32.00	30.00
Oenanthic Ether lb bot. . . . . lb.	1.90	2.00	2.00	1.90	2.00	1.90
Paracresol Methyl Ether. . . . lb.	6.50	6.75	6.75	6.50	6.75	6.50
Paracresyl Acetate. . . . . lb.	5.50	5.75	5.75	5.50	5.75	5.50
Para Cymene Refd 110 gal dr . . . . . gal.	2.25	2.50	2.50	2.25	2.50	2.25
PHENYLACETALDEHYDE						
50% 1 lb bot. . . . . lb.	4.75	5.00	5.00	4.75	7.50	4.75
Imported 50%. . . . . lb.	4.75	5.00	5.00	4.75	6.50	4.75
100%. . . . . lb.	8.00	8.25	8.25	8.00	8.25	8.00
Phenylacetic Acid 1 lb bot. . lb.	3.00	3.25	3.25	3.00	3.25	3.00
Phenyl Diacetate 1 oz bot. . . oz.	3.00	3.25	3.25	3.00	3.25	3.00
1 lb bot. . . . . lb.	8.00	10.00	10.00	8.00	10.00	8.00
Imported. . . . . lb.	7.00	7.75	7.75	7.00	7.75	7.00
Phenylethyl Alcohol 1 lb bot. lb.	4.50	4.75	4.75	4.50	4.75	4.50
Phenyl Ethyl Acetate. . . . . lb.	8.25	8.75	8.75	8.25	8.75	8.25
Butyrate 1 lb bot. . . . . lb.	15.00	16.00	16.00	15.00	16.00	15.00
Formate, 1 lb bot. . . . . lb.	19.00	21.00	21.00	19.00	21.00	19.00
Propionate, 1 lb bot. . . . . lb.	16.00	18.00	18.00	16.00	18.00	16.00
Valerate, 1 lb bot. . . . . lb.	19.00	20.00	20.00	19.00	20.00	19.00
Phenylpropylalcohol, 1 lb bot . . . . . lb.	12.00	12.50	12.50	12.00	16.00	12.00
Skatol, 1 oz bot. . . . . lb.	4.50	7.00	7.00	4.50	7.00	4.50
Terpinyl Acetate, 25 lb cans. . lb.	.75	.80	.80	.75	.80	.75
Imported, 25 lb cans.	.85	.90	.90	.85	.90	.85
TERPINEOL, CP, 1000 lb drs . . . . . lb.	.33	.35	.35	.33	.35	.33
50 lb cans. . . . . lb.	.37	.39	.39	.37	.39	.37
Absolute, 25 lb cans. . . . . lb.	.48	.50	.50	.48	.50	.48
Imported, 25 lb cans. . . lb.	.58	.60	.60	.58	.60	.58
Vanillin, USP, 25 lb tins. . . . lb.	.....	7.00	7.00	7.00	7.50	7.00
1 lb cans. . . . . lb.	.....	7.15	7.15	7.15	7.70	7.15

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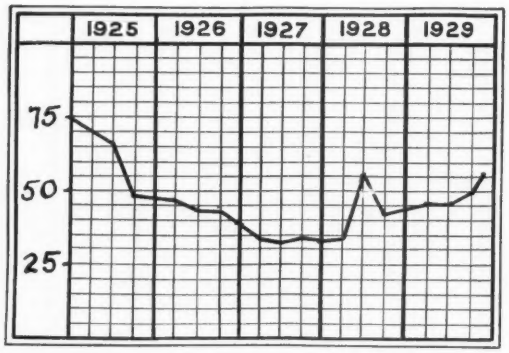
{ Monthly Review }

Citronella Up Sharply

Citronella oils represent the high light of the essential oil market. Ceylon is very strong and is being offered spot here at 56c and 58c per lb. This is an advance over the high of last month of about 7c per lb. Offerings in the primary market have practically been withdrawn and increasingly high cables are being received for what little is obtainable. Citronella Java is also advancing to new high



Citronella Ceylon prices : Cents per pound

levels for the year. Spot quotations are 86c to 91c per lb., an advance of 8c per lb. during the past month. Quotations from the primary market are higher with very little oil being offered.

The strength in citronella is attributed to the fact that when the oil was lower in price large quantities were removed from the market by speculators who saw the opportunity for large profits as citronella oil had been quite strong for some months past.

Citronella and lemon grass oil imports during the first seven months of 1929 showed a quantity decrease of 10 per cent., but an increase in value of $9,000. Imports of citronella and lemon grass for 1928 amounted to 923,824 lbs., and for 1929, 818,830 lbs.

Java Citronella Experiments

The Ceylon Agricultural Department has been experimenting successfully on citronella, states Consul S. W. Eells, Columbo, and on May 15, five acres of land were allocated at Damana for experimental purposes by the department. Results are said to have been satisfactory.

Encouraged by this success, 250 acres of Patna or Talawa land have been already allocated in Wewgam Pattu. This area has been cleared of useless grasses, and two varieties—Ceylon and Matara local—will be cultivated. However, the peasants have not taken up the cultivation of citronella very enthusiastically although it has been found to be a renumerative industry.

Exports of citronella oil during the quarter ended June 30, 1929, were 289,109 pounds, valued at $103,417; against 297,101 pounds, valued at $92,071 for the same period last year. Declared exports to this country were 100,534 pounds, valued at $39,680.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Valerianic Ether see Ethyl Valerate					
Yara Yara, 1 lb cans lb.	1.50	1.60	1.50	1.60	1.50
Essential Oils					
Almond Bitter, USP, 5 lb bot lb.	2.75	2.85	2.85	2.70	2.80	2.70
Bitter, ffPA, 5 lb bot lb.	2.85	2.95	3.10	2.85	3.25	3.00
Sweet, 56 lb cans lb.	.73	.76	.85	.73	.85	.75
Amber crude, 25 lb tins lb.	.33	.35	.35	.33	.35	.33
Rectified, 25 lb tins lb.	.52	.55	.55	.52	.55	.52
Angelica Root, 1 lb bot lb.	21.00	23.00	24.00	21.00	28.50	16.00
Anise Tech, 400 lb drums lb.	.77	.82	.85	.55	.58	.54½
USP, 60 lb cans lb.	.85	.86	.86	.58	.61	.57
Apricot Kernel, 50 lb cans lb.	.40	.42	.46	.40	.50	.44
Bay, 25 lb tins N. F. V., 50.55% Phenol lb.	2.40	2.60	3.00	2.30	3.00	1.90
Terpeneless lb.	5.80	6.00	6.00	5.80	6.00	5.80
BERGAMOT, 25 lb coppers lb.	4.00	4.40	5.35	4.00	6.10	4.85
Terpeneless lb.	14.00	18.00	18.00	14.00	18.00	14.00
Artificial, 25 lb cans lb.	2.50	3.25	3.25	2.50	3.25	2.50
Birch, Sweet, Northern, 25 lb tins lb.	3.75	4.00	4.00	3.75	4.00	3.75
Southern, 25 lb tins lb.	.....	1.95	1.95	1.95	1.95	1.95
Birch Tar, rect., 5 lb bot lb.	.50	.55	.55	.50	.55	.50
Crude, 50 lb tins lb.	.12	.13	.13	.12	.13	.12
Bois de Rose, tins						
Brazillian lb.	1.55	1.60	1.70	1.55	2.00	1.80
Cayenne, tins lb.	1.90	2.00	2.35	1.90	2.60	2.05
Cade, 25 lb cans lb.	.25	.27	.27	.25	.27	.25
Cajuput, native, 50 lb tins lb.	.75	.80	.88	.70	.75	.70
Calamus, 5 lb bot lb.	3.40	3.50	3.50	3.40	3.50	3.40
Camphor Sassa, 1000 lb drs lb.	.29	.30	.36	.14½	.15½	.14½
White, 400 lb drs lb.	.40	Nom.	.40	.10½	.12½	.10½
Cans, 50 lbs lb.	.35	Nom.	.35	.14	.15	.14
CANANGA, Native 25 lb tins lb.	2.90	3.15	3.25	2.90	3.50	3.00
Rectified, 25 lb tins lb.	3.40	3.50	3.50	3.40	4.00	3.40
Caraway, USP lb.	1.85	1.95	2.00	1.65	1.85	1.65
Cardamon, NF, 1 lb bot lb.	25.00	38.00	38.00	25.00	38.00	25.00
Cascarilla, USP, 1 lb bot lb.	75.00	90.00	90.00	50.00	64.00	50.00
Cassia, 80-85%, 400 lb drs lb.	.....	Nom.	.....	.....	1.45	1.30
Redist, USP, 50 lb cans lb.	1.50	1.55	2.10	1.50	3.25	1.70
Cedar Leaf, 50 lb tins lb.	1.05	1.10	1.10	.95	1.35	.90
Cedar Wood, light, 1000 lb drs lb.	.25	.27	.28	.25	.29	.24
Celery, 1 lb bot lb.	.....	7.75	7.75	7.75	8.50	7.25
Chaulmoogra, USP 80 lb cases lb	.....	1.50	1.50	1.20	1.20	1.20
Cinnamon Ceylon, 1 lb bot lb.	9.50	13.00	13.00	9.50	13.00	9.75
Leaf, 5 lb bot lb.	1.85	1.95	1.95	1.60	1.75	1.60
CITRONELLA Ceylon, 1000 lb drs lb.	.56	.58	.58	.44	.56	.33
50 lb tins lb.	.60	.61	.61	.46	.58	.35
Java, 400 lb drs lb.	.86	.91	.91	.49	.51	.40
50 lb tins lb.	.88	.93	.93	.52	.54	.43
Cloves, USP, 50 lb cans lb.	2.20	2.25	2.70	2.20	2.65	1.25
6 lb bot lb.	2.45	2.50	2.90	2.45	2.75	1.35
Copaiba lb.	.....	.65	.80	.65	.80	.65
Coriander, USP, 10 lb bots lb.	6.50	7.00	11.25	6.50	14.00	10.50
Croton USP, 25 lb tins lb.	1.70	1.75	1.75	.90	.95	.90
Cubebs, USP, 5 lb bot lb.	2.90	3.00	3.00	2.90	3.45	2.90
Cumin, 1 lb bot lb.	.....	3.75	3.75	3.75	3.75	3.75
Dill, 25 lb cans lb.	3.75	3.85	3.85	3.75	4.25	3.75
Erigeron, 20 lb tins lb.	1.80	1.90	1.90	1.80	2.50	1.80
EUCALPYTUS Austl, USP, 56 lb cans, cases lb.	.51	.52	.60	.51	.60	.59
500 lb drs lb.	.50	.51	.59	.50	.59	.58
Fennel, USP, 25 lb tins lb.	.80	.90	.85	.80	.85	.80
Geranium African, 25 lb tins lb.	4.50	4.75	5.40	3.85	4.25	3.00
Bourbon, 28 lb tins lb.	4.50	4.75	5.85	4.25	4.90	3.00
Turkish, 28 lb tins lb.	3.25	3.35	3.35	3.00	3.35	2.45
Ginger, 1 lb bot lb.	6.60	6.85	6.85	6.00	6.75	4.80
Gingergrass, 28 lb tins lb.	2.50	2.70	2.70	2.50	2.70	2.50
Hemlock, 25 lb tins lb.	1.05	1.10	1.10	1.05	1.10	1.00
Juniper Berries, USP, 25 lb tins lb.	2.05	2.10	2.15	2.05	3.75	2.10
Wood, 50 lb tins lb.	.50	.60	.60	.50	.60	.50
LAVENDER, USP, 28 lb tins lb	3.25	3.40	3.40	3.25	3.85	3.00
Spike Spanish, 50 lb cans lb.	.90	.95	.95	.90	1.05	.90
Lemon Ital, 25 lb cans lb.	3.35	4.00	5.75	3.35	4.85	2.30
California 35 lb cbys lb.	2.80	2.95	4.65	2.80	4.35	1.85
Lemongrass, native, 50 lb cans lb.	.72	.74	.83	.81	.95	.81
Limes, expressed, 25 lb tins lb.	20.00	23.00	28.00	20.00	25.00	9.25
Distilled, 25 lb tins lb.	8.75	9.00	9.75	7.75	8.50	6.00
Linaloe Mex., 70 lb cases lb.	2.20	2.25	2.25	2.20	2.45	1.90
Mace, distilled, 50 lb tins lb	1.75	1.80	1.80	1.75	1.85	1.60
Mandarin, 25 lb cases lb.	11.00	11.50	11.50	11.00	11.50	7.50
Mirbane, ref Aromatic Chemicals						
MUSTARD, USP, 1 lb bots lb.	9.50	10.00	10.00	9.50	10.00	9.50
Artif, USP, 5 lb bot lb.	1.60	1.70	1.70	1.60	2.00	1.60
Neroli Bigarade, ⅛ & ¼ & 1 lb bot lb.	150.00	325.00	325.00	75.00	140.00	75.00
Petale, 1 lb bot lb.	160.00	170.00	170.00	160.00	170.00	160.00
Artificial, 1 lb bot lb.	5.00	15.00	15.00	5.00	15.00	5.00
Nutmeg, USP, 50 lb tins lb	1.75	1.80	1.80	1.75	1.80	1.60
ORANGE BITTER, 25 lb tins lb	4.00	4.25	6.75	4.00	8.75	2.70
Sweet W Ind, 25 lb tins lb	3.75	4.00	6.50	3.75	8.75	2.60
Italian, 25 lb cop lb.	4.15	4.40	7.35	4.15	9.00	2.80

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{ Monthly Review }

More Chaulmugra Oil

As a result of increasing interest in the campaign against leprosy and in the use of chaulmugra oil for treatment of the disease, special efforts have been made by the Burma Forest Department to collect information on the location of the chaulmugra trees of Burma, Taraktogenos Kurzii, the principal source at present, and the related species and genera which might yield similar or better medicinal oil. The Department determined the main geographical distribution of Taraktogenos Kurzii and found six other related chaulmugra trees. They are all known to the Burmese as kalaw, with various qualifying affixes. Taraktogenos Kurzii is much the commonest species.

In collaboration with the Chemistry Department of Rangoon University, analyses of the oils from fresh fruits, Taraktogenos Kurzii and Asterisstigma macrocarpa so far do not indicate any very important differences in their oils. Work is proceeding and about 1930 it is hoped to publish a bulletin on the Burma chaulmugras or kalaws, with full botanical data and all the chemical results. Seed of Taraktogenos Kurzii is being collected and distributed to various parts of the world in response to numerous requests. (Vice Consul L. C. Altaffer, Rangoon).

Spain Sends Less Oils

Spain exported 13% less essential oils to this country in 1928 than in 1927 reports Commercial Attache Charles A. Livengood, Madrid, who places the total exports of essential oils from Spain to U. S. for 1927 at 312,056 pounds, valued at $212,679, while in 1928 the aggregate quantity shipped was 271,891 pounds, valued at $202,000. During the first quarter of 1929, exports to the U. S. were 36,877 pounds, valued at $50,742.

Shipments of oil rosemary declined from 72,857 pounds, valued at $37,856 in 1927, to 34,455 pounds, valued at $24,271 in 1928. In the first three months of 1929, exports amounted to 5,332 pounds, valued at $2,458. On the other hand, the amount of oil of origanum sent to the U. S. in 1928 increased to 53,732 pounds, from 31,730 pounds in 1927, although value declined from $35,877 in 1927 to $33,484 in 1928. Oil of thyme shipments in 1927 were 33,535 pounds, valued at $30,264, and 36,044 pounds, valued at $28,800 in 1928. First quarter shipments to the U. S. in 1929 amounted to 8,616 pounds, valued at $6,646.

Peppermint is easier at $3.35 per lb. The market is inactive with its chief interest being the desire of the primary market to dispose of stocks and a lack of interest on the part of the secondary market. Supplies, although not large, are apparently ample to take care of any demand that may develop.

Sandalwood is reported as being scarce in the spot market. Prices have advanced to $9.25 for prompt delivery. The East Indian oil is now in such a position, and prices have risen to such a figure, that the situation is bound to cause renewed interest in Australian the oil. The price of West Indian sandalwood oil remains unchanged at $2.85 and $2.95.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Orange American, Cold pressed 25 lb tins ..... lb.	4.00	4.25	7.40	4.00	8.75	3.50
Distilled, 25 lb tins ..... lb.	2.75	2.85	5.25	2.75	7.75	2.20
Spanish, 25 lb tins ..... lb.	4.35	4.50	7.15	4.35	8.75	3.00
Oil Orris, concrete ..... oz.	6.00	6.25	6.25	2.50	4.90	2.50
Origanum, 50 lb cans tech... lb.	.28	.30	.30	.28	.30	.28
Parsley, 1 lb bot ..... lb.	9.00	9.25	9.25	8.00	8.25	6.50
Patchouli, 5 lb bot ..... lb.	8.25	8.50	8.75	6.75	13.00	7.25
Pennyroyal, dom, 25 lb tins.. lb.	1.55	2.10	2.10	1.55	1.90	1.55
Imported, 25 lb tins ..... lb.	.....	1.20	1.20	1.20	1.55	1.20
Pepper Black lb., ...	10.25	.....	.....	.....	.....	.....
Peppermint, nat. 60 lb cases lb.	3.35	3.45	4.05	2.85	3.55	3.10
Redis, USP, 60 lb cs. ..... lb.	3.60	3.70	4.30	3.10	3.65	3.40
Petit Grain S A., 25 lb tins.. lb.	1.95	2.05	2.05	1.90	2.10	1.50
French, 1 lb bot ..... lb.	6.25	6.50	6.50	6.25	6.50	6.25
Italian, 25 lb tins ..... lb.	2.20	2.30	2.30	2.20	2.30	2.20
Pimento, 25 lb tins ..... lb.	2.50	2.75	2.75	2.25	3.25	2.55
Pineedle Siberian, cans..... lb.	.60	.65	.65	.60	.85	.65
Pinus, Sylvestris, 25 lb tins.. lb.	1.90	2.00	2.00	1.90	2.00	1.90
Pumilio, USP, 25 lb tins.. lb.	2.85	2.95	2.95	2.85	2.95	2.85
Rose Fr, 8, 16, & 32 oz pkgs.. lb.	14.00	17.00	17.00	12.00	15.00	12.00
Bulg, 8, 10 & 32 oz pkgs... lb.	14.00	14.50	14.50	11.50	13.00	10.25
Rosemary, USP, 27½ lb tins.. lb.	.....	.56	.56	.47½	.56	.47½
1000 lb drums..... lb.	.....	.50	.50	.42½	.45	.42½
Tech, 25½ lb tins..... lb.	.....	.40	.40	.40	.34	.34
Rue, 1 lb bot ..... lb	3.15	3.25	3.25	3.15	3.25	3.15
SANDALWOOD, E Ind, USP, 100 lb case ..... lb.	9.25	9.75	9.75	7.45	7.50	7.05
W Indian (Amayris), 25 lb tins ..... lb.	2.85	2.95	2.95	2.25	2.65	2.30
Sassafras, USP, 50 lb cans... lb.	1.30	1.32	1.32	.78	.85	.75
Artificial, 1000 lb drs, 60 lb cans ..... lb.	.35	.37	.40	.26	.28	.26
Safrol, cans ..... lb	.41	.43	.48	.28	.29	.28
Savin, 50 lb tins ..... lb	2.60	2.75	2.75	1.65	1.90	1.70
SPEARMINT, USP, 50 lb tins ..... lb	4.65	4.70	4.70	4.05	4.55	4.10
Spruce, 50 lb tins ..... lb	1.05	1.10	1.10	1.05	1.10	1.00
Tansy, American, 25 lb tins.. lb.	3.75	4.00	4.00	3.75	4.50	3.75
Tar, 50 gal bbls ..... lb.	.25	.30	.30	.25	.30	.25
USP, 50 gal bbls ..... lb.	.75	1.50	1.50	.75	1.50	.75
Thyme, red, NF, 25 lb tins.. lb.	.78	.80	.90	.78	.90	.80
White, NF, 25 lb tins..... lb.	.83	.85	.90	.83	.90	.85
Tech, 110 lb drums..... lb.	.60	.70	.70	.60	.70	.60
Turpentine, USP, rect cbys.. lb.	.27	.30	.30	.27	.30	.27
Vetivert Bourbon, 10 bot.... lb.	6.25	6.50	6.50	6.25	6.75	5.85
Indian, 1 lb bot ..... lb.	25.00	38.00	38.00	25.00	38.00	25.00
Java, 1 lb bot ..... lb.	15.00	16.00	16.00	15.00	16.00	15.00
Wine, heavy, 1 lb bot ..... lb.	1.65	1.75	1.75	1.65	1.75	1.65
WINTERGREEN Gaultheria, true, 25 lb tin..... lb.	8.00	10.00	10.00	8.00	10.00	8.00
Southern, 25 lb tins.... lb.	3.75	4.00	4.00	3.75	4.00	3.75
Synthetic see Methyl salicylate						
Wormwood, dom, 25 lb tins.. lb.	17.00	21.00	35.00	17.00	35.00	14.00
Wormseed, Balt, 25 lb tins... lb.	3.55	3.65	3.65	1.80	3.45	1.90
Ylang Ylang Bourbon, 10 lb tins No. 1 ..... lb.	9.00	9.25	9.75	9.25	10.50	8.50
10 lb tins No. 2..... lb.	8.25	8.50	8.50	8.25	8.50	6.75
Manila, 1 lb bot ..... lb.	30.00	40.00	40.00	30.00	32.00	30.00

Oleoresins

Aspidum, USP, bot and tins.. lb.	.....	1.25	1.45	1.25	2.10	1.50
Capsicum, USP, bot and tins.lb.	3.50	4.25	4.25	3.50	4.25	3.50
Cubeb, USP, bot and tins.... lb.	3.00	3.25	3.25	3.00	3.25	3.00
Ginger bot and tins..... lb.	2.85	3.35	3.35	2.85	3.35	2.25
Malefern see Aspidum						
Orris, bot & tins ..... lb.	15.00	18.00	18.00	15.00	18.00	15.00
Pepper, black, USP, bot & tin ..... lb.	.....	9.50	9.50	9.50	.....	.....
Vanilla, bot & tins..... lb.	8.00	8.75	8.75	8.00	8.75	8.00

Perfumer's Sundries

Almond Meal, 25 lb cans.... lb.	.20	.21	.21	.20	.21	.20
Amber liquid, 400 lb drs..... lb.	2.20	2.30	2.30	2.20	2.30	2.20
Ambergris, Black, boxes..... oz.	14.00	15.00	15.00	14.00	15.00	14.00
Gray boxes..... oz.	32.00	36.00	36.00	32.00	36.00	32.00
BALSAM COPAIBA Para, 80 lb cases..... lb.	.....	.33½	.34	.30	.49	.32
South American, USP, 80 lb cases..... lb.	.....	.37	.37	.33	.52	.35
Peru, 120 lb cases..... lb.	2.00	2.00	2.05	1.75	1.80	1.65
Tolu, 90 lb cases..... lb.	1.25	1.30	1.30	1.15	1.20	.95
Benzoin Gum, Siam, boxes... lb.	1.20	1.30	1.30	1.20	1.30	1.20
Castoreum, 1 lb bot..... lb.	9.50	10.00	10.00	9.50	10.00	9.50
Chalk, Precip, 1 gt 175 bbls. lb.	.04½	.05	.05	.04½	.05	.04½
Cherry Laurel Water, 24 ltr cby ..... lb.	4.10	4.60	4.60	4.10	5.60	4.10
Civet, Abyssin, horns..... oz.	2.10	3.00	3.00	2.10	3.00	2.10
Labdanum, 5 lb bot..... lb.	5.50	6.00	6.00	5.50	6.00	5.50
Musk Pods Cabardine, tins.. lb.	.....	.....	.....	.....	.....	.....
Musk Tonquin, tins, Pods.... oz.	24.00	26.00	26.00	24.00	26.00	24.00
Grains Cabardine, tins..... oz.	.....	.....	.....	.....	.....	.....
Tonquin, tins, Grained.. oz.	28.00	34.00	34.00	28.00	34.00	28.00
Synthetic See Aromatic Chemical						
Rice Starch, 140 lb bags.... lb.	.09	.10	.10	.09	.10	.09
Rose Water, 24 ltr cbys.. cby.	5.00	5.50	5.50	5.00	5.50	5.00
Sandalwood, pwd bags..... lb.	.22½	.40	.40	.22½	.40	.22½
Saponin, 5 lb tins..... lb.	1.15	1.30	1.30	1.15	1.30	1.15
Talc, Italian, 220 lb bags...ton.	60.00	80.00	80.00	60.00	80.00	60.00
French, 220 lb bags.....ton.	40.00	45.00	45.00	40.00	45.00	40.00

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{ Monthly Review }

Papain Monopoly in Ceylon

What was stated to be the largest shipment of papain ever made from Ceylon left there on July 11, when 737 cases containing 29,480 net pounds at a value of $73,754 were exported, reports Consul S. E. Wells, Columbo.

It is said that the individual in Ceylon who practically controls the market, buys papain from all over the island, dries and prepares it, and pays the growers about 6 rupees per pound net for the resultant refined dried papain. The price at which he sells and has been selling it for some time past is 7.50 rupees per pound. Other shippers of the poorer grades, and not the white kind, have been shipping at anywhere from 3 to 5 rupees per pound. (Rupee is equivalent to $.3603).

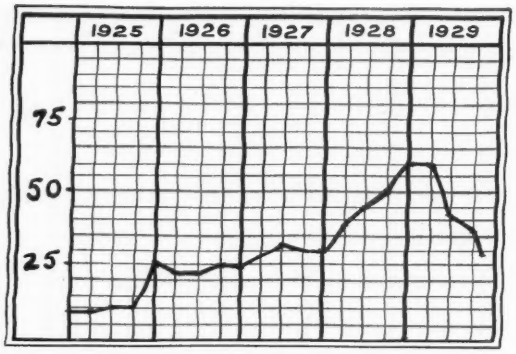
European shippers, who in the past used to ship papain in large quantities from Ceylon, have now given it up because they can not obtain the pure quality due to the practical monopoly of this one individual.

A French firm is interested in getting in touch with American importers of psyllium seed. His name and address are available upon request to the Chemical Division of the Department of Commerce.

More Cascarilla from Bahamas

Exports of cascarilla bark from the Bahamas during 1928 showed a decided increase to 44,176 pounds, valued at $30,604 in 1928, as compared with 33,666 pounds valued at $14,610 in 1927. In 1928 cascarilla bark siftings to the amount of 31,669 pounds with a declared value of $12,421, went to the United States, showing a large increase over 1927 when they amounted to 8,727 pounds and $2,710.

Digitalis Prices Low



The above chart of prices of digitalis leaves in cents per pound, shows the reaction that has set in this item due to the scarcity of money in Europe. The fact that the dealers there have been unable to obtain credit to take the goods that the gatherers have offered, has forced lower prices to be in order as a result of this distress material. But the same fact has greatly reduced the quantity of leaves that have been gathered to cover next year's requirements and sharply higher prices should be in order before the Winter is over.

Drugs and Spices

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Aconite Root, USP, bags....lb.	.18	.19	.21	.18	.27	.19
Agar Agar, domestic, No. 1, 200 lb.....lb.	1.40	1.45	1.45	1.40	1.40	.96
Almonds Meal.....lb.	.19	.20	.30	.15	.30	.15
Aletris Root, bags.....lb.	.36	.37	.38	.35	.42	.36
Alkanet Root, bags.....lb	.13	.14	.15	.11	.12	.10
ALOES, Cape, 400 lb cases. lb.	.14	.15	.18	.14	.18	.09½
Curacao, 100 lb cases....lb.	.25	.27	.27	.19	.20	.12
Socotrine, Whole, 300 lb cs lb.	.35	.40	.50	.35	.45	.35
Althea Root, bags.....lb.	.20	.22	.22	.20	.22	.20
Cut cases.....lb.	.32	.39	.40	.32	.40	.33
Angelica Root, bags.....lb.	.21	.22	.28	.21	.25	.18
Angostura Bark, bags.....lb.	.22	.25	.26	.19	.18	.18
Anise Star case.....lb.	.11	.11½	.19	.11	.26½	.14
Spanish, bags.....lb.	.14½	.15	.19	.13½	.20	.13
ARABIC GUM, White, No. 1, 220 lb bags.....lb.	.37	.38	.38	.22	.27½	.22
Seconds, 220 lb bags.....lb.	.35	.36	.36	.16	.21	.16
Sorts, Amber, 220 lb bags..lb.	.30	.32	.32	.11	.11½	.10½
Powd, USP, 300 lb bbls....lb.	.33	.35	.35	.17½	.21	.17½
Areca Nuts, 100 lb bbls.....lb.	.10	.11	.11	.10	.12½	.10
Powd, 100 lb bbls.....lb.	.20	.22	.22	.14	.21	.15
Arnica Flowers, bales.....lb.	.43	.44	1.00	.43	1.50	.95
Root, bags.....lb.	.45	.46	.46	.35	.45	.35
Arrowroot, St. Vincent, powd bbls.....lb.	.10	.10½	.10½	.10	.10½	.10
Asafoetida, 250 lb cases.....lb.	.24	.27	.29	.23	.31	.25
Powd, 50 lb boxes.....lb.	.49	.50	.54	.46	.68	.50
Balm Gilead Buds, bags....lb.	.35	.40	.40	.35	.40	.31
Balmony Herbs, bales.....lb.	.23	.25	.25	.18	.23	.18
Barberry Bark, of root, bags lb.	.18	.19	.20	.18	.32	.19
Bayberry Bark, bales.....lb.	*.10*	*.11*	*.13*	*.10*	*.18*	*.12*
Wax bbls.....lb.	.29	.32	.32	.29	.32	.29
BELLADONNA LEAVES, bales .....lb.	.18	.20	.20	.17	.23	.17
Root, bags.....lb.	.18	.19	.21	.18	.21	.19
Bees Wax, White, cases.....lb.	.55	.60	.60	.55	.60	.55
Yellow refined cases....lb.	*.41*	*.42*	*.42*	*.41*	*.42*	*.41*
Berberis Aquafolium Root, bags .....lb.	.09	.10	.12	.09	.13	.10
Beth Root, bags.....lb.	*.16*	*.17*	*.18*	*.16*	*.20*	*.17*
Black Indian Hemp Root, 100 lb bags.....lb.	.18	.19	.19	.18	.20	.18
Blood Root, bags.....lb.	*.18*	*.18½*	*.18½*	*.17½*	*.35*	*.21*
Blueflag Root, bags.....lb.	.18	.19	.20	.18	.27	.17
Boldo Leaves, bales.....lb.	.15	.17	.17	.15	.17	.15
Boneset Herb, bales.....lb.	.11	.12	.12	.10	.10	.07½
Borage Flowers, bales....lb.	*.15*	*.16*	*.15*	*.14½*	*.17*	*.14½*
Broomtop Herb Cut, bales..lb.	.10	.11	.11	.10	.11	.10
Bryonia Root, bags.....lb.	.11	.12	.12	.11	.12	.10½
BUCHU LEAVES Short, 250 lb. bales.....lb.	.46	.47	.47	.36	.55	.42
Long bales.....lb.	*.75*	*.80*	*.80*	*.75*	*.80*	*.75*
Buckbean Leaves, bales.....lb.	.08	.09	.10	.08	.15	.13
Buckthorn Bark, bags.....lb.	.05	.05½	.05½	.05	.05½	.05
Berries, bags.....lb.	*.40*	*.45*	*.50*	*.40*	*.50*	*.45*
Burdock Root, bags.....lb.	.17	.18	.18	.13	.17	.11
Seed bags.....lb.	.40	.....	.65	.40	.....	.65
Burgundy Pitch, 110 stand gross for net.....lb.	.08	.09	.09	.08	.09	.08
Imported.....lb.	.11	.12	.13	.11	.13	.12
Calabar Beans, bags.....lb.	.25	.26	.26	.22	.27	.22
Calamus Root, bfchd cases..lb.	.45	.50	.52	.45	.50	.35
Unbleached, bags.....lb.	.06½	.07	.07	.06½	.07	.06½
Calendula Petals, imp bales..lb.	1.00	1.10	1.70	1.00	1.75	.85
Calisaya Bark, bales.....lb.	.21	.22	.22	.21	.23	.20
Powdered, bbls.....lb.	.26	.27	.27	.26	.32	.18
Canary Seed, South America, bags.....lb.	.07	.07½	.07½	.05	.05½	.04½
Dutch, bags.....lb.	.05½	.06½	.06½	.05½	.06½	.05½
Candelilla Wax, bags.....lb.	.27	.28	.28	.27	.28	.27
Cannella Alba Bark, bales...lb.	*.30*	*.31*	*.31*	*.28*	*.32*	*.28*
Cannabis, U.S.P.....lb	.25	.32	.33	.22	.....	.....
Cantharides, Chinese, cases..lb.	.42	.47	.55	.42	.72	.50
Powdered, boxes.....lb.	*.63*	*.65*	*.80*	*.63*	*.88*	*.75*
Russian, cases.....lb.	.50	.51	.55	.50	.70	.54
Powdered, boxes.....lb.	.62	.64	.75	.65	.80	.68
Caraway Seed, African, bags .....lb.	.05	.06	.06	.05	.12	.05
Dutch, 11 lb bags.....lb.	.10	.10½	.12	.09½	.12	.09½
Cardamon bleached, cases...lb.	*1.45*	*1.55*	*1.75*	*1.45*	*2.00*	*1.50*
Decorticated, cases.....lb.	1.36	1.42	1.60	1.36	1.60	1.25
Cascara Amarga, 150 lb bbls.lb.	Nom.	.....	.....	.....	.90	.90
So called bales.....lb.	.60	.85	.85	.60	.85	.60
CASCARA SAGRADA, 1926 bark.....lb.	.17	.18	.18	.15	.16	.15
1927 bark.....lb.	.15	.16	.16	.14	.15	.14
1928 bark.....lb.	.14	.15	.15	.13	.14	.13
Cascarilla Bark, quills, bales.lb.	.90	1.00	1.00	.90	1.00	.90
Siftings, bbls.....lb.	*.65*	.....	*.65*	*.65*	*.65*	*.65*
Cassia Batavia No. 1 bbls....lb.	.13½	.14	.15	.13½	.16	.13½
Shortstick, bales.....lb.	.10½	.11	.12½	.10½	.13	.11
Batavia No. 3, bales.....lb.	*.09½*	*.09¾*	*.11*	*.09½*	*.11*	*.09½*
China Select Rolls, cases..lb.	.07	.07¼	.09	.08½	.13½	.09
Broken, bales.....lb.	.09½	.10	.10	.09½	.10	.08½
Saigon, thin.....lb.	*.30*	*.31*	*.39*	*.28*	*.39*	*.22*
Buds, cases.....lb.	.26	.28	.28½	.16½	.19	.18½
Fistula, baskets.....lb.	.11	.12	.13	.10	.24	.11
Catnip, Herb, bales.....lb.	*.19*	*.20*	*.23*	*.18*	*.23*	*.19*
Celery Seed, bales.....lb.	.17½	.18	.19	.16½	.21	.19
Ceresin Wax, White, bags...lb.	.15	.20	.20	.15	.20	.15
Yellow 200 lb. bags.....lb.	*.11*	*.14*	*.14*	*.11*	*.14*	*.11*
Imp. 100 lb. bags.....lb.	.25	.38	.38	.25	.38	.25

McIlvaine Brothers,

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Belladonna Root
Buchu Leaves
Chamomile Flowers
Dandelion Root
Digitalis Leaves
Doggrass Root
Fennel Seed
Gentian Root
Henbane Leaves
Henna Leaves
Insect Flowers
Juniper Berries
Lavender Flowers
Licorice Cuttings
Orris Root, Florentine
Olive Oil, Italian
Rhubarb Root
Sage Leaves
Soap Castile
Soap Bark, Cut
Squill Root

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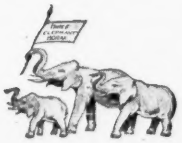

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Drugs and Spices

{ Monthly Review }

No Morocco Orris to U. S.

Orris root is produced to a small extent in Morocco and shipments in 1927 aggregated 21,410 kilos, valued at 63,010 francs, showing a slight increase over 1926 when 20,189 kilos were shipped at a value of 46,936 francs. Practically all of the orris root from this source goes to France, the balance going to Great Britain and Egypt, says Consul H. Earle Russell, Morocco. Value of franc for 1926 was $.0324; and for 1927, $.0392.

Coriander is reported easier with supplies pressing for sale. Spot stocks were being offered at $6.50 to $7.00, a decline of 50c per lb. during the past month.

Egyptian Senna Inspection

The Horticultural Section of the Egyptian Ministry of Agriculture is sending to the Egyptian Consul at Washington, D. C., samples of whole leaf, half leaf and siftings, which will be submitted to a number of importing houses with the idea of obtaining their reactions to the types made up. If American importers find these types suitable the Horticultural Section states that it intends establishing a control committee which will inspect every bale of Egyptian senna to be exported and if it is found to be up to the standard government types, a certificate authorizing the exportation of the bale will be given. This is the projected method of control but it may be modified later. The fact is at present, however, that the Egyptian Government has not yet definitely or finally decided upon the system of control which it will eventually employ; the matter is now in its preliminary stages and a communique regulating the exportation of senna is proposed to be issued as soon as the standard types are established. Until that time the situation remains as in the past and importers may apply to their usual source of supply for their requirements. (Commercial Attache Charles E. Dickerson, Jr., Cairo).

Collection of Myrrh in Africa

A market is being sought at Mombasa for myrrh, which is obtained from the Balsamodendren Myrrh, common in the Mandera district of the northern frontier Province of Kenya. The myrrh is collected by natives and sold at Mandera and at Lugh in Italian Somaliland across the frontier. At Mandera, traders exchange it for small quantities of tobacco or other goods. At Lugh the price given is about 24 shillings ($6) for 36 pounds. There are two kinds of myrrh in this Province, one of which comes from trees growing near the coast in the hot, low country, and the other from trees farther up country in the hills. The latter is worth about twice as much as the former.

Arnica flowers were in plentiful supply with prices easier at 43c and 44c per lb. The tendency has been for arnica flowers to get back to a more nearly normal level.

Sabadilla is easier, quotations being made at 28c and 29c per pound. Sabadilla had been selling rather high and the decline marks a tendency to seek a more normal level.

	Current Market		1929 High	1929 Low	1928 High	1928 Low
CHAMOMILE FLOWERS						
Roman, bales	lb.	.45	.50	.40	.50	.18
Hungarian, cases	lb.	.22	.23	.26	.20	.24	.15
Charcoal Willow, powd, bbls.	lb.	.06	.06½	.06½	.06	.06½	.06
Wood, powd, bbls	lb.	.04	.05	.05	.04	.05	.04
Chestnut Bark	lb.	.07	.08	.08	.07	.....	.....
Leaves bales	lb.	.05	.05½	.05½	.05	.06½	.05
Chicle Gum, lb bbls	lb.	.58	.75	.75	.58	.75	.58
Chiretta, bales	lb.	.26	.28	.30	.26	.30	.25
Cinnamon, Ceylon, No. 1, bales	lb.	.34	.35	.62	.34	.62	.60
No. 2 bales	lb.	.32	.33	.51	.32	.61	.55
No. 3 bales	lb.	.55½	.56	.56	.55½	.56	.55½
Clover Tops, Red, bags	lb.	.10	.11	.14	.10	.12	.10
Cloves Zanzibar, 135 lb bbl.	lb.	.27½	.27½	.38	.27½	.38	.18
Cochineal, Black	lb.	.69	.....	.69	.69	.69	.69
Silver	lb.	.85	.....	.85	.85	.85	.85
Cohosh Root, Black, bags	lb.	.08	.09	.09	.07½	.09	.07
Blue, bags	lb.	.10	.11	.12	.10	.12	.09
Colchicum Root, bags	lb.	.08	.09	.09	.07	.07	.06
Seed, bags	lb.	.85	.90	.90	.65	.70	.25
COLUMBO ROOT, bags	lb.	.15	.16	.20	.15	.20	.05
Colocynth Pulp, bales	lb.	.26	.27	.45	.29	.110	.42
Coltsfoot Leaves, bags	lb.	.08	.09	.09	.08	.12	.08
Comfrey Root, bags	lb.	.11	.....	.14	.11	.14	.14
Condurango Bark, bags	lb.	.15	.16	.17	.15	.16	.13
Coriander Seed, Morocco, bags	lb.	.03	.03½	.06	.03	.13	.05
Bleached, bags	lb.	.07½	.08	.11½	.07½	.19	.11
Corn Silk, bales	lb.	.05½	.06½	.06½	.05½	.06½	.05
Cotton Root Bark, bales	lb.	.14	.15	.15	.12	.15	.12
Cowhage, 1 oz tins	lb.	1.00	.....	1.00	1.00	1.00	.95
Cramp Bark so called bales.	lb.	.06½	.07	.08	.06	.08	.05½
True, bags	lb.	.35	.40	.48	.35	.55	.34
Cranesbill Root, bags	lb.	.10	.....	.10	.10	.12	.10
CUBEB BERRIES, XX bags	lb.	.48	.53	.53	.48	.53	.48
Powdered, boxes	lb	.50	.55	.55	.50	.55	.50
Culvers Root, bags	lb.	.18	.19	.20	.18	.22	.18
Cumin Seed, Malta, bags	lb.	.13½	.13¾	.13¾	.12	.15	.12
Morocco, bags	lb.	.13¾	.14	.14	.12	.15	.12
Cuttlefish, Bone Trieste, Straps	lb.	.25	.25	.25	.14	.14	.13
French, boxes	lb.	.22	.23	.23	.12½	.15	.12½
Powdered, bbls	lb.	.09	.10	.10	.09	.10	.09
Broken, bales	lb.	.07	.....	.07	.05	.05	.05
Damiana Leaves, bales	lb.	.17	.18	.18	.16	.30	.16
Dandelion Root, Imp. bags	lb.	.25	.27	.29	.19	.20	.14
Deer Tongue Leaves, bales.	lb.	.11	.13	.13	.11	.18	.10
Digitalis Leaves, bales	lb.	.28	.30	.70	.28	.70	.30
Dogwood Bark, Jamaica bags	lb.	.09	.10	.11	.09	.10½	.09
American bales	lb.	.06½	.....	.06½	.06½	.06½	.06½
Doggrass Root, USP, cut bags	lb.	.12	.13	.13	.10	.13	.10½
Dragons Blood Mass, cases	lb.	.65	.70	.70	.65	.70	.65
Reeds, boxes	lb.	2.40	2.50	2.50	.90	.95	.95
Echinacea Root, bags	lb.	.24	.26	.28	.24	.33	.26
Elcampane Root, bags	lb.	.08	.09	.09	.08	.09	.08
Elder Flowers, bags	lb.	.45	.50	.50	.22	.25	.19
Elemi Gum, 85 lb cases	lb.	.26	.28	.28	.26	.28	.20
Elm Bark, bundles	lb.	.35	.36	.36	.25	.27	.22
Grinding bags	lb.	.13½	.14	.14	.13½	.14	.13½
Powdered, bbls	lb.	.19	.22	.22	.19	.22	.19
Ephedra Vulgaris, bales	lb.	.12	.13	.16	.12	.25	.15
ERGOT, 150-200 lb bags	lb.	.65	.75	.95	.65	2.50	.80
Eucalyptus Leaves, bales	lb.	.08	.09	.11	.07	.10	.06½
Euphorbia Pilulifera, Herb, bags	lb	.09	.10	.11	.09	.10	.07½
Euphorbium Gum, cases	lb.	.14	.20	.20	.14	.20	.14
Fennel Seed, French, bags	lb.	.15½	.16½	.18½	.15½	.25	.16½
German bags	lb.	.18	.20	.27	.18	.32	.20
Foenugreek Seed, 200 lb bags	lb.	.06	.06½	.06½	.05	.06	.04½
Fish Berries, 100-125 lb bag.	lb.	.06	.07½	.07½	.06	.07½	.06
Flax Seed, Whole . . 182 lb bbls.		16.25	17.00	17.00	14.00	14.75	14.00
Ground, 180 lb bbls	lb.	.09	.09½	.09½	.08	.08½	.08
Flea Seeds Black bags	lb.	.30	.32	.32	.20	.27	.16
Fringe Tree Bark or Root bags	lb.	.19	.21	.24	.19	.27	.22½
Fumigating Pastiles, boxes.	lb.	.30	.35	.35	.30	.35	.30
Galangal Root, bags	lb.	.14	.15	.15	.14	.15	.11
Galbanum Gum, cans	lb.	.95	1.05	1.25	.95	1.25	1.00
Gamboge Gum, 100 lb cases.	lb.	1.10	1.15	1.25	1.10	1.35	1.10
Powdered, cases	lb.	.....	1.25	1.40	1.20	1.50	1.20
Gelsemium Root, bags	lb.	.09	.10	.12	.09	.13	.09
GENTIAN ROOT, bags	lb.	.09	.10	.11	.09	.11	.09
Ground bbls, boxes	lb.	.13	.14	.14	.13	.14	.11
Powdered, bbls, boxes	lb.	.13	.14	.14	.13	.14	.12½
Ginger, African, bags	lb.	.17½	.17½	.17½	.13	.14½	.10½
Jamaica Grinding bags	lb.	19½	.20	.20	.18	.23	.17
Cochin ABC & Lemon, bags	lb.	.18	.18½	.18½	.17	.20	.16
Ginseng Root, cultivated cs.	lb.	8.00	10.00	10.00	8.00	10.00	8.00
Wild Southern, cases	lb.	.....	16.00	16.00	16.00	16.00	8.50
Golden Seal Root, bags	lb.	3.00	3.10	3.80	3.10	4.50	3.90
Powdered, boxes	lb.	.....	3.70	4.35	3.70	5.25	4.60
Herb, barrels	lb.	1.25	1.30	1.30	1.25	1.30	1.25
Grains of Paradise, bags	lb.	.35	.45	.85	.35	.60	.40
Grindelia Robusta, Herb, bale	lb.	.11	.12	.12	.09	.12	.08½
Guaiac Gum, 150 lb cases	lb.	.34	.35	.38	.33	.40	.33
Strained 75 lb cases.	lb.	.70	.75	.75	.70	.75	.70
Guarana, tin cases	lb.	2.75	3.00	3.00	2.50	2.75	1.65
Hellebore Root, Black, bbls.	lb.	.05½	.06	.06	.05½	.06	.05½
White, 250 lb bbls	lb.	.07¾	.08½	.08½	.07¾	.08½	.07¾
Powdered	lb.	.11	.12	.12	.11	.14	.11
Helonias Root, bags	lb.	.67	.69	.72	.62	.80	.67
Hemp Seed, bags	lb.	.05	.06	.06	.05	.07	.03½
Henbane Leaves, USP, bales.	lb.	.18	.19	.20	.18	.23	.18

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Drugs and Spices

Monthly Review

Brazil Supplies Bulk of Balsams

A perusal of 1928 statistics reveals that of the 401,000 pounds of balsams imported into the United States, valued at $189,000, Brazil supplied 216,000 pounds, value $48,000; Salvador 52,000 pounds, value $68,000; Colombia 34,000 pounds, value $20,000; Nicaragua 15,000 pounds, value $20,000; Italy 42,000 pounds, value $10,000; and France 23,000 pounds, value $6,000.

The balance, which was of relative insignificance, was supplied by six other countries.

Imports of balsams into the United States for the first 8 months of 1928 compared with the first 8 months of 1929 were 294,626 pounds, value $141,000, and 252,788 pounds, value, $143,000, respectively.

The proper Brazilian export market for botanical drugs is at Rio de Janeiro. However, two or three kinds of botanical drugs are exported from Para, namely: Muirapuana, salesaperrilha (in small quantities) and copaiba. At present only copaiba balsam is exported, but no difficulty would be met in exporting the crude product. Declared exports of copaiba balsam from Brazil through the port of Para, which accounts for the bulk of the exports, to the United States during the years 1927, 1928, and the first six months of 1929, were as follows: 1927—209,522 pounds, value $72,257; 1928—167,492 pounds, value $42,956; first six months of 1929—110,756 pounds, value $25,696. (Vice Consul Gerald A. Drew, Para).

Elder flowers are very firm with prices advancing during the past month 5c per lb. Scarcity in the spot market with difficulty being experienced in making replacement is responsible for the strength shown in this commodity.

Hops are in plentiful supply with market declining 5c per lb. over last months high of 28c.

Orris Root in Temporary Decline

Orris root is quiet at 29c to 30c for the Florentine. In August and September, small gatherers made contracts with producers, who, it is well known, are not well financed and must depend on making a quick turnover. This necessity for quick sales results invariably in decreasing prices which have been reflected in the marked decline during the Summer months.

A situation quote contrary to this is now reported as existing in the primary market. Stocks are very small and have to last until 1930. These remaining stocks are now held by strong hands who do not have to liquidate but are in a financial position to hold stocks out of the market until such time as a definite demand will create a condition of bidding inimical to the interests of the buyer. Manipulation may, therefore, be expected with stocks circulated only at figures that will necessitate an increase in prices in the secondary market.

It must also be born in mind that orris root is one of the products under government regulation, the acreage being definitely set under the assumption that orris is used in the manufacture of luxuries and the farmers must devote their time and labor toward the production of more staple commodities. The production next year, it is estimated, will not be over 140 to 150 tons. As one large French manu-

	Current Market		1929 High	1929 Low	1928 High	1928 Low
HENNA LEAVES, bales....lb.	.12	.13	.13	.12½	.13	.12½
Powdered.....lb.	.15	.16	.17	.15	.17	.16
Hops, bales.....lb.	.....	.23	.32	.23	.32	.25½
Horehound, Herb, bales.....lb.	.08	.09	.09	.08	.09	.07
Hydrangea Root, bales.....lb.	.....	.09	.09	.08	.09	.08
Insect Flowers.....lb.	.27	.28	.37	.18	.35	.22
Powdered, Pure, 200 lb bb .....lb.	.34	.35	.46	.25	.45	.32
IPECAC ROOT, Carteagna, bags.....lb.	4.00	4.25	4.25	2.70	3.30	2.35
Powdered, 220 lb bbls...lb.	4.30	4.45	4.45	3.20	3.65	3.15
Rio Whole, bags.....lb.	3.00	3.20	3.20	2.85	3.40	2.80
Powdered, 110 lb bbls...lb.	3.40	3.50	3.50	3.40	3.50	3.25
Isinglass, American, 130 lb cases .....lb.	.95	1.00	1.00	.95	1.00	.95
Russian (Beluga), boxes...lb.	4.50	.....	4.50	4.50	4.50	4.50
Jaborandi Leaves, bales.....lb.	.22	.22½	.22½	.11½	.13	.13
Jalap Root, Whole, 150 lb bag.....lb.	.42	.45	.45	.24	.21	.16
USP, Powd, 250 lb bbls....lb.	.47	.50	.50	.29	.26	.22
Japan Wax 24 lb cases.....lb.	.18½	.19	.19	.18½	.19	.18½
JUNIPER BERRIES, 125 lb bags.....lb.	.06½	.07	.09	.05	.07½	.05
Kamala, boxes.....lb.	1.00	1.10	1.40	.82	1.00	.85
Karaya Gum, Powdered, bbls .....lb.	.12	.20	.20	.12	.13	.12
Kava Kava Root, bags.....lb.	.14	.15	.15	.14	.16	.15
Kino Gum, Black, cases.....lb.	.50	.55	.55	.50	.55	.50
Kola Nuts, 150 lb bags.....lb.	.14	.15	.15	.13	.15	.09
Lady Slipper Root, bags....lb.	.90	1.00	1.30	.85	1.75	.78
Larkspur Seed, bags.....lb.	.52	.57	.57	.40	.45	.30
Laurel Berries, bags.....lb.	.08	.09	.09	.08	.09	.08
Leaves, Greek, bags.....lb.	.05½	.06	.06	.05	.07	.04½
Italian, bales.....lb.	.03½	.04	.04	.03½	.05	.03½
Lavender Flowers, Ordinary.lb.	.32	.35	.35	.32	.35	.30
Selected.....lb.	.45	.46	.46	.43	.55	.40
Lemon Peel, bags.....lb.	.09½	.10½	.13	.10	.10	.09½
LICORICE ROOT, Whole bbls .....lb.	.12	.18	.18	.12	.18	.12
Spanish Natural bales....lb.	.05½	.07	.07	.05½	.07	.05½
Powdered, bbls.....lb.	.09	.10	.10	.09	.10	.09
Selected 2 & 5 lb bdls....lb.	.13	.15	.15	.12½	.16	.12½
Cutting, 125 lb bags....ln.	.06½	.07	.07	.06½	.07	.06½
Turkish, 150 lb bales.....lb.	.05	.....	.05	.05	.05	.05
Linden Flowers with leaves, bales.....lb.	.23	.24	.27	.23	.33	.29
Without leaves, bales...lb.	.28	.29	.32	.28	.36	.27
Liverwort Leaves, bales.....lb.	.18	.19	.20	.18	.20	.16
Lobelia, Herb, bales.....lb.	.12	.13	.16	.12	.20	.15
Seed, bags.....lb.	.45	.50	.65	.45	.75	.65
Lovage Root, Imp., bags....lb.	.35	.37	.37	.25	.27	.25
Lupulin N. F., tins.....lb.	1.75	.....	1.75	1.75	1.75	1.75
Lycopodium, 88 lb. cases....lb.	.70	.72	.85	.70	1.00	.70
MACE SIAUW, No. 1, cases .....lb.	.84	.85	.86	.82	.98	.88
Banda No. 1, cases.....lb.	.92	.94	.98	.92	1.00	.94
Batavia No. 2, cases.....lb.	.47	.50	.58	.47	.68	.56
Malva Flowers, Blue, bales..lb.	.55	.57	.57	.40	.70	.45
Black, bales.....lb.	.40	.55	.60	.40	.60	.45
Leaves, bales.....lb.	.14	.15	.15	.14	.15	.14
Manaca Root, bales.....lb.	.....	.24	.24	.22	.22	.22
Manna, Large Flake, cases...lb.	.90	.92	.92	.75	.80	.65
Small Flake, cakes.....lb.	.55	.58	.65	.52	.60	.50
Sorts, cases.....lb.	.45	.50	.50	.45	.50	.45
Mandrake Root, bags.....lb.	.12	.13	.14	.12	.18	.13
Marjoram, Herb.....						
French, No. 1 bales.....lb.	.16½	.16¾	.19	.16	.18½	.13½
German, bales.....lb.	.22	.22½	.23	.22	.18½	.12
Mastic Gum, 120 lb cans....lb.	.65	.70	.70	.65	.70	.60
Matico Leaves, bales.....lb.	.30	.31	.32	.30	.45	.31
Mezereon Bark, bags.....lb.	.20	.25	.25	.20	.35	.20
Millet Seed, Yellow, bags...lb.	.03¾	.04½	.04½	.03¾	.04¾	.03¾
Montan Wax, Crude, bags..lb.	.06½	.07	.07	.06½	.07	.06½
Bleached, bags.....lb.	.25	.28	.28	.25	.28	.25
Moss, Iceland, bales.....lb.	.10	.12	.11	.10	.12	.07½
Irish, Bleached, bales....lb.	.14	.17	.18	.13	.18	.11
Mullein Flowers, tins.....lb.	1.35	1.40	2.00	1.35	2.25	2.00
Leaves, bales.....lb.	.07½	.08	.08	.07½	.08	.07½
Musk Root, Russian, bags...lb.	.09	.10	.12	.09	.25	.11½
Myrrh Gum, 200 lb, cases...lb.	.38	.41	.65	.41	1.10	.55
Nutgalls, Chinese, bags.....lb.	.22	.....	.22	.22	.22	.22
Aleppy, bags.....lb.	.21	.....	.21	.21	.25	.21
Powdered, bags.....lb.	.23	.....	.23	.23	.23	.23
Nutmegs, 110's cases.....lb.	.27	.27½	.31½	.27	.38	.30
75's & 80's cases.....lb.	.38	.39	.42	.38	.50	.42
Grinding, bags.....lb	.24	.25	.25	.24	.29	.26½
NUX-VOMICA Buttons, bag .....lb.	.05	.06	.06	.05	.05½	.04
Powdered, 200 lb bbls..lb.	.08	.08½	.08½	.08	.08½	.08
Oak Bark, bags.....lb.	.05	.05½	.05½	.05	.06½	.05
Olibanum Gum, 280 lb cases Siftings.....lb.	.13½	.15	.15	.13	.11½	.13
Tears, No. 1 Extra.....lb.	.29	.30	.29	.27	.30	.26
No. 2.....lb.	.18	.20	.23	.18	.20	.18
No. 3.....lb.	.14	.16	.18	.14	.17	.14
Opium Gum, USP, cases....lb.	12.00	13.00	13.00	12.00	13.00	12.00
Granular, cans.....lb.	13.00	14.00	14.00	13.00	14.00	13.00
Powdered, USP, cans.....lb.	13.00	14.00	14.00	13.00	14.00	13.00
Orange Flowers, cases.....lb.	.25	.....	.25	.25	.25	.25
Peel, Bitter, bags.....lb.	.11½	.12½	.12½	.10	.11	.10
Sweet bags.....lb.	.15	.16	.16	.11	.08½	.08½
ORRIS ROOT, Flor. bid. bags .....lb.	.29	.30	.32	.17	.14½	.10
Powdered, 200 lb bbls..lb.	.32	.34	.35	.21	.17	.13
Verona, bags.....lb.	.23	.24	.25	.16	.13	.09
Powdered, 200 lb bbls..lb.	.26	.27	.32	.20	.14	.11
Fingers, boxes.....lb.	1.15	1.20	1.20	.90	.90	.80
Ozokerite Wax, Brown, Hard lb.	.....	.....	.....	.....	.....	.....
Bags.....lb.	.24	.25	.25	.24	.25	.24
Green, Hard, bags.....lb.	.30	.31	.31	.30	.31	.30
Yellow, Refined, bags.....lb.	.37	.....	.37	.37	.37	.37

Monthly Review

facturer alone consumes 100 tons annually, the amount to be divided over the balance of the market is certainly anything but formidable.

Although there is no definite tendency in the market at present to indicate that buyers need be alarmed, still there is an underlying situation, that is shaping the market so that prices considerably higher than those now existing may be looked for.

Flea Seed Scarcity

Flea seed is considerably higher in the spot market at 30c and 32c per lb. This is an increase of about 8c per lb. during the past month. Reports have been coming in that stocks in the primary market are nearly exhausted, cables having been received offering flea seed at as high as 35c for shipment.

This bullish tendency in the primary market has been discounted here to some extent; that is, no one has deemed the situation serious enough to accept any such price as 35c for shipment. The result has been that in the exchange of wires, prices for shipment have eased off from this 35c price.

This would indicate that, although there undoubtedly is a shortage abroad, there is also a tendency toward speculation, and that the traders abroad have been feeling out this market in order to ascertain just how much the situation will bear.

Vanilla Market Quiet

The vanilla bean market is routine with no change in the schedule prices during the past month.

The weather has been very favorable and the vanilla crop, in the opinion of many in a position to know, is that it should be about the same as the last year's crop, when it is estimated that 225,000 pounds were harvested.

Estimates for this seasons crop vary from 150,000 to 200,000 pounds, but it is thought that it will run over 200,000 pounds. The green beans are selling for fifty centavos Mexican currency (0.25 American currency), per pound, while last year they were sold at twenty-five to thirty centavos (0.12½ to 0.15 cents).

The cutting of the green beans not suitable for curing as wholes has commenced. The price for vanilla has increased slightly, quoted now at $2.50 to $2.75 f.o.b. Veracruz for whole beans and $2.00 to $2.10 for cuts. The carry-over stock is large, estimated at about 25,000 pounds.

Sudan Gum Arabic

The market in 1928 opened with stocks left over from 1927 and with the promise of a good year. Sales were normal until June when reports of a late crop prompted buyers to place large orders at the most favorable price then obtainable. This activity caused prices in the Omdurman market to soar from 52 Egyptian piasters per kantar ($4 per 99 pounds) in August. Corresponding "c. i. f. Continental port" quotations rose from 36 shillings per hundredweight of 112 pounds ($7.84 per 100 pounds)

		Current Market		1929 High	1929 Low	1928 High	1928 Low
Papain, Crude, 150 lb cases	lb.	3.10	3.15	3.50	2.95	4.90	3.45
Pure, Powdered, 10 lb bot.	lb.	3.25	3.30	3.55	3.10	4.35	3.50
Paprika, bags	lb.	.25½	.26	.33	.25½	.33	.23
Pareira Brava Root, bags	lb.	.13	.14	.14	.11	.12	.11
Passion Flower, bales	lb	.09	.10	.75	.09	.15	.06½
Patchouli Leaves, bales	lb.	.22	.23	.23	.22	.29	.22
Pennyroyal, Herb, 100 lb bags	lb.	.07	.....	.07	.07	.07	.07
Leaves, 100 lb bags	lb.	.14	.16	.16	.14	.16	.14
PEPPERMINT LEAVES, Imp bales	lb.	.45	.47	.47	.43	.50	.43
Domestic, bales	lb.	.45	.46	.46	.24	.40	.24
Pichi Leaves, bags	lb	.13	.14	.16	.13	.14	.13
Pimento Select, bags	lb.	.21	.21½	.30½	.21	.23	.16½
Pink Root, True, bags	lb.	.55	.57	.60	.55	.75	.58
Pleurisy Root, bags	lb.	.22	.23	.28	.21	.28	.22
Poke Berries, bags	lb.	.....	.18	.30	.18	.30	.20
Root, 200 lb bales	lb.	.08	.08½	.08½	.07½	.10	.07½
Pomegrant Bark of Root, bags	lb.	.30	.35	.35	.20	.44	.20
Bark of Fruit, bags	lb.	.25	.30	.30	.25	.30	.30
Bark of Tree, bags	lb.	.18	.22	.22	.15	.21	.15
POPPY FLOWERS, Red, bags	lb.	.55	.60	.60	.50	.65	.50
Heads, bags	lb.	.50	.....	.50	.50	.50	.08
Prickly Ash Bark	lb.	.14	.17	.17	.14	.17	.14
Southern bags	lb.	.13½	.14	.14	.13½	.16	.13½
Northern, bags	lb.	.15	.16	.18	.15	.25	.16
Berries, bags	lb.	.20	.21	.21	.19	.22	.17½
Prince's Pine, bales	lb.	.33	.35	.35	.15	.17	.14
Pulsatilla, Herb, bags	lb.	.12	.13	.14	.12	.14	.11
Pumpkin Seed, bags	lb.	.14	.15	.15	.14	.25	.14
Quassia Chips, bags	lb.	.06½	.....	.06½	.06½	.06½	.06½
Quebracho, bulk, 125 lb. bbl.	lb.	.30	.31	.31	.29	.36	.29
Root, bags	lb.	.....	.07	.07	.07	.08	.07
Quince Seed, bags	lb.	.70	.80	.80	.70	.80	.60
Cape, bags	lb	.95	1.10	1.25	.80	1.50	.95
Rape Seed, South American, bags	lb.	.05½	.06	.06	.05½	.06½	.04½
Dutch, bags	lb.	.07	.07½	.07½	.06	.07½	.05½
Japanese, small bags	lb.	.05½	.06½	.07	.05½	.07	.06½
Raspberries, Dried, bbls.	lb.	.50	.60	.60	.45	.85	.45
Red Saunders, bags	lb.	.08	.....	.08	.08	.08	.08
Rhatany Root, bags	lb.	.12	.13	.13	.11	.12	.11
Rhubarb Root, HD, cases	lb.	.30	.31	.41	.30	.45	.38
Powdered, bbls	lb	.35	.36	.46	.35	.53	.43
Rosemary Leaves, bales	lb.	.05	.05½	.06	.04½	.06	.04½
Flowers, cases, bales	lb.	.25	.30	.30	.25	.30	.25
Rose Petals, pale	lb.	.40	.41½	.42½	.40	.45	.38
Red	lb.	1.65	1.70	1.80	1.65	2.20	1.70
Rue, Herb, bales	lb.	.18	.20	.20	.18	.20	.18
Sabadilla Seed, bags	lb.	.28	.29	.34	.28	.35	.30
Powdered, bbls	lb.	.30	.31	.39	.30	.38	.32
SAFFRON FLOWERS, American, bales	lb.	.30	.35	.40	.30	.40	.29½
Valencia, 1 lb cans	lb.	11.25	11.75	12.00	11.00	16.00	11.25
Sage Dalmatian, bales	lb.	.05½	.06	.06	.05½	.07	.05½
Greek, bales	lb.	.05½	.06	.06	.05½	.06	.04½
Sandarac Gum, 300 lb bbls.	lb.	.70	.75	.75	.40	.43	.30
Sarsaparilla Root, Honduras, bales	lb.	.54	.55	.55	.54	.58	.52
Mexican, bales	lb.	.24	.26	.40	.24	.29	.20
Sassafras Bark, Ordinary, bales	lb.	.14	.16	.16	.14	.17	.13½
Select, bales	lb.	.22	.24	.28	.22	.27	.23
Savory Leaves, bale	lb.	.08½	.09	.09	.08½	.10	.07½
Saw Palmetto Berries, bags	lb.	.09½	.10½	.12	.09½	.20	.11
Scammony Resin, boxes	lb.	1.30	1.35	1.35	1.30	1.35	1.30
Root, bags	lb.	.08½	.....	.08½	.08½	.08½	.08½
Senega Root, bags	lb.	1.00	1.05	1.35	1.00	1.40	1.27
SENNA ALEX., 150 lb cases	lb.	.25	.30	.30	.25	.30	.25
Halfleaf 150 lb cases	lb.	.12½	.14½	.15	.12½	.15	.13
Sifting, 400 lb bales	lb.	.11	.11½	.11½	.10½	.11	.10½
Tinnevelly, Bold, 350 lb bales	lb.	.16	.18	.18	.16	.20	.15
Medium Leaf	lb.	.11	.12	.12	.10	.13½	.09
Small Leaf	lb.	.07	.09	.10	.07	.10	.07
Pods, 350 lb	lb.	.11	.11½	.11½	.08	.13	.08½
Powdered, 200 lb	lb.	.....	.11	.11	.11	.10	.11
Serpentaria Root, bags	lb.	.67	.70	.72	.65	.77	.70
Shellac, T. N., bags	lb.	.57	.58	.58	.57	.58	.57
Simaruba Bark, bales	lb.	.20	.25	.40	.20	.38	.05
Skullcap Leaves, Eastern, bales	lb.	.....	.40	.40	.40	.40	.33
Western, bales	lb.	.18	.19	.20	.18	.26	.18
Skunk Cabbage, Striped, bales	lb.	.14	.16	.16	.14	.16	.14
Snake Root, Canada Natural, bags	lb.	.27	.28	.28	.24	.30	.24
Canada, Stripped, bags	lb.	.55	.....	.55	.55	.55	.55
Soap Bark	lb.	.14	.15	.15	.14	.15	.14
Cut, 125-175 lb bags	lb.	.12	12½	.16	.12	.17	.16
Crushed, 200 lb bbls.	lb.	.16	.....	.16	.16	.17	.16
Powdered, bbls.	lb.	.17	.....	.17	.17	.18	.18
Spearmint Leaves, American, bales	lb.	.28	.33	.33	.25	.30	.25
Spermaceti, blocks, cakes, cases	lb.	.32	.35	.35	.32	.35	.32
Spikenard Root, bags	lb.	.18	.18½	.20	.18½	.25	.20
Squaw Vine, bales	lb.	.20	.21	.21	.18	.21	.21
Squills, White	lb.	.09	.10	.13	.09	.16	.08
Powdered, bulk	lb.	.23	.25	.25	.20	.30	.15
Stavesacre Seed, bags	lb.	.16	.17	.18	.16	.18	.15½
Stillingia Root, bags	lb.	.09	.10	.12	.09	.12	.10
Stone Root, bags	lb.	.08	.09	.09	.08	.09	.08
St. Ignatius Beans, bags	lb.	.14½	.15	.15	.14½	.15	.14½
St. John's Bread, bags	lb.	.....	.09	.09	.09	.14½	.09
STRAMONIUM LEAVES, bales	lb.	.16	.18	.20	.16	.20	.16
Seed, bags	lb.	.07½	.....	.07½	.07½	.07½	.07½

[Monthly Review]

to 45 shillings ($9.80 per 100 pounds) for natural gum, and approximately one shilling higher for cleaned gum. This activity of the buyers continued until November with the prospects of a new crop in January and February when c. i. f. prices dropped to 40 shillings. At the close of the year it was discovered that all stocks on hand had been sold and that exportations (in quantities) had exceeded those of any year past.

The following table shows exports of gum arabic, with chief purchasing countries, for the past three years:

Country	1926 Tons	1927 Tons	1928 Tons
United States	1,172	4,357	4 781
United Kingdom	5,961	4,382	3,986
France	2,508	2,259	3,755
Germany	2,441	3,640	3 438
Belgium	1,336	1,680	1,738
Italy	188	1,480	1 508
Japan	952	539	704
Netherlands	623	784	621
Sweden	343	219	436
Australia	583	595	381
Spain	434	458	381
India	57	70	276
China	105	203	212
Other countries	6,040	573	560
Total	22,743	21,239	22,777

(Vice Consul Joseph L. Brent, Cairo).

According to Assistant Commercial Attache William D. Mann, Cairo, the exports of Sudanese gum arabic for the first six months of the current year amounted to only 13,526 tons, against 15,848 tons for a similar period during 1928. The following table shows the principal countries of destination and the quantity purchased:

Destination	6 Mos. 1928 Tons	6 Mos. 1929 Tons	Destination	6 Mos. 1928 Tons	6 Mos. 1929 Tons
Great Britain	2,849	2,392	Norway and Sweden	192	77
United States	3,633	3 331	Australia and New Zealand	315	305
France	2,846	2,073	British India	160	84
Germany	2,218	2,439	China	93	144
Belgium	1,105	789	Egypt	53	44
Japan	589	373	Other countries	215	159
Italy	905	778			
Netherlands	370	317			
Spain	276	187	Total	15,848	13,526

The export figures for the first six months of 1928 and 1929 are made up of the following quantities:

	Hashab	Bleached	Talha	Total
Six Months 1928 (tons)	14,347	153	1,348	15,848
Six Months 1929 (tons)	11,257	45	2,224	13,526

The acute situation existing in the present gum market makes the following table showing the principal countries supplying the United States with Gum Arabic and Gum Tragacanth of more than passing interest, says the Department of Commerce:

	Gum Arabic Pounds	Gum Arabic Value	Gum Tragacanth Pounds	Gum Tragacanth Value
France	764,000	$ 67,000	56,000	$ 20,000
Germany	73,000	9,000	56,000	20,000
United Kingdom	1,938,000	172,000	190,000	115,000
British India	47,000	4,000	506,000	221,000
Iraq	....	....	203,000	178,000
Persia	....	...	627,000	280,000
Turkey in Asia	....	....	126,000	69,000
Egypt	6,715,000	518,000	....	....
Total	9,537,000	$770,000	1,708,000	$882,000

Imports of gum arabic for the first eight months of 1928 and 1929 were as follows: 1928—8,089,000 pounds, value $638,000; 1929—8,015,000 pounds, value $819,000. Imports of gum tragacanth for the first eight months of 1928 and 1929 were 1,378,000 pounds, value $689,000, and 1,322,000 pounds, value $589,000 respectively. The quantity of gum arabic remaining in bonded warehouses on July 30, 1929 was 12,734 pounds.

	Current Market	1929 High	1929 Low	1928 High	1928 Low
Strophanthus Seed, Kombe, bags lb.	2.25	2.5	2.50	2.00	3.00	2.00
Styrax Liquid, Artificial lb.	.26	.35	.35	.26	.35	.26
Genuine, USP lb.	.40	.45	.45	.40	.45	.36
Sunflower Seed, bags Calif lb.	.06	.07	.07	.06	.09	.06
South American, bags lb.	.07	.07½	.07½	.07	.07½	.06
Tamarinds, bbls lb.	.09½	.10	.10	.05	.06	.05
Kegs keg	3.85	.....	3.75	3.85	3.85	3.85
Tansy, Herb, bales lb.	.15	.16	.16	.11	.14	.11
Thus Gum, 280 lb bbls lb.	.11¼	.20	.20	.11¼	.20	.11¼
THYME, Spanish, bales lb.	.14	.16	.16	.08½	.09	.08½
French, bales lb.	.12	.12½	.12½	.08	.08½	.07
Tonga Root, bundles lb.	.42	.....	.42	.42	.55	.42
Vine, bundles lb.	.42	.....	.42	.42	.55	.42
Tonka Beans, Angostura Cases	1.75	1.85	2.00	1.75	2.00	1.90
Para cases lb.	.90	.....	.90	.90	.90	.90
Surinam cases lb.	1.00	1.10	1.50	1.00	1.50	1.25
Tragacanth Gum, No 1, 100 lb cases lb.	1.45	1.50	1.60	1.50	1.60	1.55
No. 2 lb.	1.30	1.40	1.50	1.30	1.50	1.40
No. 3 lb.	1.10	1.20	1.30	1.10	1.30	1.25
Powdered, 50 lb boxes lb.	.90	1.00	1.10	.90	1.10	.85
Turkish cases lb.	.50	.90	.90	.45	.45	.45
Turmeric Root Madras, bags lb.	.08½	.08½	.09	.08½	.12	.06
Aleppy bags lb.	.08½	.09	.10	.08½	.13	.06½
Powdered lb.	.13	.15	.15	.13	.15	.10
China bags lb.	.11	.12	.12	.11	.11	.09
Turpentine Venice True, 80 lb cases lb.	.32	.40	.40	.32	.40	.3
Artificial, 80 lb cases lb.	.17	.18	.18	.17	.17	.12
Uva Ursi Leaves, bales lb.	.06	.06½	.06½	.06	.07	.07
Valerian Root, Belgium, bags lb.	.21	.22	.30	.21	.30	.16
VANILLA BEANS, Mexican, whole, cases lb.	3.50	4.50	4.50	3.25	4.00	4 3.25
Cuts, cases lb.	3.15	3.30	3.30	2.50	2.75	2.50
Bourbon, cases lb.	1.75	2.35	2.65	1.75	2.75	2.00
South American, cases lb.	.....	3.00	3.00	2.50	2.75	2.50
Tahiti, Green, label cases lb.	1.75	2.00	2.50	1.75	2.50	2.25
Vetivert Root, 100 lb bags lb.	.25	.....	.25	.25	.30	.25
Violet Flowers, bags lb.	.75	.80	1.00	.68	.90	.63
Wahoo Bark of Root, bags lb.	.50	.51	.56	.51	.62	.51
Bark of Tree, bags lb.	.25	.26	.31	.25	.35	.25½
White Pine Bark, Roseed, bags lb.	.07½	.09½	.15	.07	.08	.07
White Poplar Bark, bags lb.	.06	.07½	.07½	.05½	.07	.05½
Wild Cherry Bark, Thin, Green lb.	.14	.15	.20	.14	...	.....
Rossed bales lb.	.11	.12	.12	.11	.12	.11
Thick Rossed, bales lb.	.09	.....	.09	.09	.09	.09
Thin Natural, bales lb.	.08	.09	.09	.07½	.08	.07½
Thick Natural, bales lb.	.06	.06½	.06½	.05	.06	.05
Wild Indigo Root, bags lb.	.14	.15	.15	.13	.14	.13
Willow Bark, bags lb.	.05	.05½	.05½	.05	.06	.05
White, bags lb.	.15	.....	.15	.15	.05	.15
Witch Hazel Bark, bags lb.	.07	.08	.08	.05½	.08	.06½
Leaves, bales lb.	.07	.08	.08	.06½	.....	.....
Wormseed, American, bags lb.	.10	.11	.13	.10	.20	.15
Levant, bags lb.	3.65	3.80	4.15	3.65	5.25	4.25
Wormwood, Herb, Imp., bales lb.	.08	.08½	.10½	.08	.10½	.10
Dock Root, bags lb.	.10	.11	.11	.10	.11	.10
Yerba Mate, bags lb.	.18	.20	.20	.18	.20	.18
Santa, bags lb.	.10	.11½	.11½	.09½	.11	.90½
Zedoary Root, bags lb.	.07	.08	.08	.06½	.07	.06½

Miscellaneous

Castor Oil, odorless, bbls lb.	.....	.14½	.....	.....	.....	.....
Chalk drop, 175 lb. bbls lb.	.....	.03½	.03½	.03½	.03½	.03½
Precip. light, 250 lb. cask lb.	.....	.04½	.04½	.04½	.04½	.04½
Heavy 540 lb. casks lb.	.....	.02½	.03½	.02½	.03½	.02½
Bulk ton	.....	5.00	5.00	5.00	5.00	5.00
English 7 lb. bags lb.	.....	.08½	.08½	.08½	.08½	.08½
Cocoa Butter, 12 lb. box lb.	.42	.45	.45	.42	.50	.40
Cod Liver Oil Nor. 30 gal. bbls bbls.	29.00	30.00	36.00	22.00	48.00	38.00
Newfoundland bbl.	.....	35.50	46.00	35.00	46.00	46.00
Collodion U. S. P. 30 lb. dr. lb.	.....	.23	.23	.23	.23	.23
Corn Syrup 42° 50 gal. bbl. 100 lb.	3.91	4.16	4.16	3.91	4.51	3.31
Gelatin, USP, Silver 100 lb. cases lb.	.55	.60	.60	.55	.60	.55
Pure Food, 50 lb. bbl. lb.	.53	.55	.55	.55	.53	.53
Glucose, (grape sugar) dry 70° bags c-l NY 100 lb.	3.14	3.24	3.24	3.14	3.24	3.14
Haarlem Oil, bot 6 gross cases gross	.....	3.75	3.25	3.25	3.25	3.25
Imported, 5 gr. cs. gross	.....	3.50	3.50	3.50	3.50	3.50
Mineral Oil White, 50 gal. bbls. 80-85 vis. gal.	.62	.67	.67	.60	.67	.60
85-90 vis. gal.	.65	.70	.70	.65	.70	.65
125-130 vis. gal.	.75	.85	.92	.65	.92	.70
290 vis. gal.	.90	1.10	1.10	.90	1.10	1.00
Russian 110-115 vis. gal.	.70	.80	.80	.70	.75	.70
145-155 vis. gal.	.74	.84	.89	.67	.80	.67
320-330 vis. gal.	.82	.92	.97	.75	.95	.80
Petrolatum, Lily White, USP. 400 lb. bbl lb.	.08	.09	.09	.08	.10	.09
Snow White USP, 400 lb. bbls lb.	.09½	.10	.10	.09½	.13½	11½
Soap Castile, 50 lb. box lb.	.....	.25	.25	.25	.25	.25
USP, powd, 250 lb. bbl. lb.	.28	.30	.30	.28	.30	.28
USP, green, 450 lb. bbl. lb.	.07½	.07½	.07½	.07½	.07½	.07½

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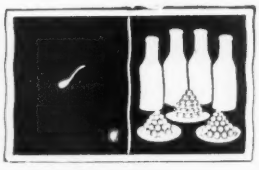

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Cadox Research Corp., New York. Toilet articles. Capital $10,000. Weil & Fenster, 291 Broadway, New York City.

Laura Rospigliosi, New York. Perfumes. Capital $100,000. W. M. Sullivan, 36 West 44th St., New York City.

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La Prene, New York. Drugs. Capital $10,000. C. H. Levitt, 1440 Broadway, New York City.

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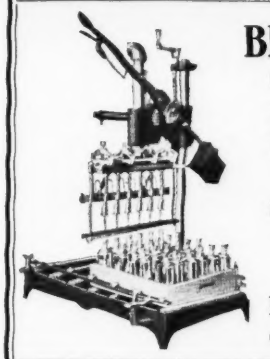

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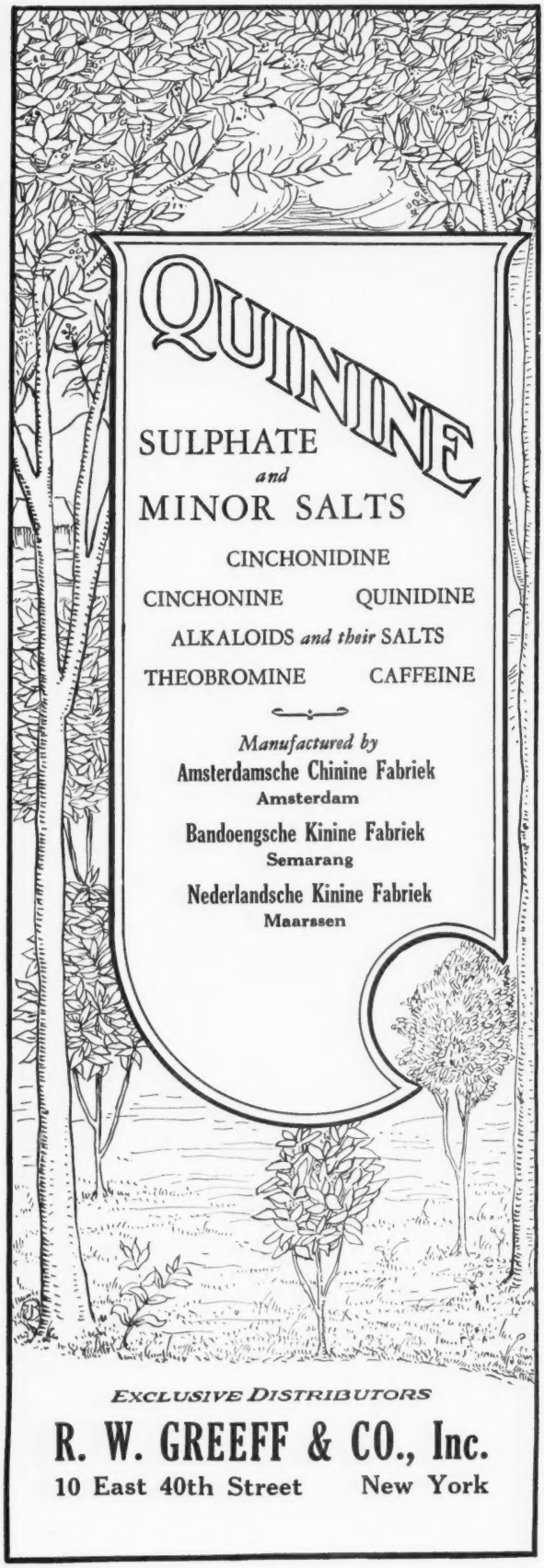

Index to Advertisers

Abbott Laboratories, No. Chicago, Ill. 486
Alsop Engineering Co., New York ..... Insert facing 473
Aluminum Co. of America Pittsburgh, Pa. ..... Insert facing 456
American Can Co., New York ..... Cover 2
American Commercial Alcohol Corp., New York 422
American Machine & Foundry Co., Brooklyn, N.Y. 428
American Metal Cap Co., Brooklyn, N. Y. 427
American Potash & Chemical Corp., New York 509
American Telephone & Telegraph Co. 460
Armstrong Cork Co., Lancaster, Pa. 421
Baird & McGuire, Holbrook, Mass. 519
Baker & Bro., H. J., New York 511
Baker Chemical Co., J. T., Phillipsburg, N. J. 486
Bond Manufacturing Corp., Wilmington, Del. 479
Burt Co., Ltd., F. N., Buffalo, N. Y. ..... Insert facing 465
California Fruit Growers Exchange, Ontario, Cal. 507
Carr-Lowrey Glass Co., Baltimore, Md. 430
Coignet Gelatines, New York 505
Colton Co. Arthur, Detroit, Mich. 485
Consolidated Products Co., New York 518
Cooper & Co., Chas., New York 486, 519
Crown Cork & Seal Co., Baltimore, Md. 429
Dodge & Olcott Co., New York 505
Dow Chemical Co., Midland, Mich. 417
Dreyer Inc., P. R., New York 478, 517
Du Pont Cellophane Co., Cellulose Cap Division, New York
Insert facing 472
Euro American Corp., New York 501
Fougera & Co., E. Inc., New York 480
Franco-American Chemical Works, Inc., New York 487
French, Inc., Benjamin, New York 503
Fritzsche Brothers, Inc., New York 470
Givaudan-Delawanna, Inc., New York 474
Greeff & Co., Inc., R. W., New York City 520
Gutmann, Ferdinand & Co., Brooklyn, N. Y. 482
A. K. Hamilton, New York 487
Heyden Chemical Corp., New York 490
Hinde & Dauch Paper Co., Sandusky, Ohio 423
Hoffmann La Roche Chem. Works Inc., New York 493
Hopkins & Co., J. L., New York 515
Horix Mfg. Co., Pittsburgh, Pa. 519
Industrial Chemical Sales Co., Inc., New York 463
Javitz & Son, E. M. Inc., New York 515
Kelsey-Risden Co., Inc., New York 489
Kiefer Machine Co., Karl, Cincinnati 485
Leonhard Wax Co., Inc., Theodor, Paterson, N. J. 484
Magnus, Mabee & Reynard, Inc., N. Y. 483
Mallinckrodt Chemical Works, St. Louis 434
Mathieson Alkali Works, Inc., New York 419
McIlvaine Brothers, Inc., Philadelphia 509
Merck & Co., Inc., Rahway, N. J. 499
Mixing Equipment Co., Inc., New York 482
Monsanto Chemical Works, St. Louis 495
National Seal Co., Inc., Brooklyn, N. Y. 424
New England Collapsible Tube Co., New York 433
Newport Chemical Works, Inc., New York 503
Norwegian Cod Liver Oil Ass'n, Norway 516
Owens-Illinois Glass Co., Toledo ..... Cover 4
Pacific Coast Borax Co, New York 519
Package Machinery Co., Springfield, Mass. 483
Parsons, M. W., New York 509
Penick & Co., S. B., New York 511
Pennsylvania Sugar Co., New York 487
Pfaltz & Bauer, Inc., New York 497
Pfizer & Co., Chas. Inc., New York ..... Insert facing 424
Phoenix Hermetic Co., Chicago, Ill. 432
Plaimar, Ltd., Perth, Western Australia 507
Powell & Co., Inc., John, New York 487
Rossville Commercial Alcohol Corp., Lawrenceburg, Ind. ..... Cover 3
Schering Corp., New York 499
Schliemann Companies, Inc., New York 489
Spring Stopper Co., New York ..... Insert facing 464
Steuerman Service, New York 481
Stokes Machine Co., F. J., Philadelphia 431
Sturge, John & E. Birmingham, England 468, 469
Sun Tube Corp., Hillside, N. J. ..... Cover 1
Todd Co., A. M., Kalamazoo, Mich. 505
Ungerer & Co. New York 476
U. S. Industrial Alcohol Co., N. Y. 425
van Ameringen-Haebler, Inc., New York ..... Inserts bet. 464, 465
Wangler-Budd Co., Inc., New York 505
White Metal Mfg. Co., Hoboken, N. J. 426
Wilckes-Martin-Wilckes Co., New York 515
Will & Baumer Candle Co., Inc., Syracuse, N. Y. 484
Wilson Laboratories, Chicago, Ill. 515
Wirz, Inc., A. H. Chester, Pa. ..... Insert facing 425